Guideline for Developing Student Innovation & Start-up Ecosystem in University/Engineering Campuses

TEQIP-III

MHRD

Index

1. **Student Innovation & Start up Centre/Club - Institutionalisation of top level strategy and implementation unit**
    i. Each institute/college should setup a dedicated Institute innovation and start-up centre/club chaired by the head of the institute and experts from within and outside college.
    ii. This centre/club should be responsible to deploy the broad action plan developed by respective college & its affiliating university in compliance with goals of AICTE Student Start-up Policy.
    iii. Periodic consultation with innovation and start-up ecosystem stakeholders should be done.
    iv. This centre/club should conceive and deploy a student centric and student driven innovation and entrepreneurship agenda.
    v. Every quarter the centre/club should evaluate the on-going programs and suggest necessary course of action to the implementation team at the college level.
    vi. Enthusiastic faculty members and students should drive the core activities of such entity in college and every year new batch of students can be inducted in the student driven efforts along with experienced seniors.
    vii. Head of the institute/Director/Principal should constantly monitor and motivate the stakeholders associated so that each institute contributes its best towards student innovation & start-up agenda of the state.

2. **Codification/Gauging existing innovation and start-up efforts in college**
    i. Each institute should try to analyse its own existing efforts related to student innovation and start-ups, so that further development strategy could be developed.
    ii. Conduct a survey across its departments to understand which one has already initiated process that can be aligned with Student Innovation & Start-up agendas.
    iii. Documenting and sharing existing scenario of innovation and entrepreneurship critical mass among all stakeholders in the college.
    iv. Informal activities and efforts being carried out in the same area needs to be streamlined and promoted by the college.
    v. Measurement of such activities should be carried out as per the indicators given by affiliating university institute evaluation process or broad AICTE Student Start-up Policy Mandate.

3. **Awareness and outreach to all stakeholders**
    i.   Institute should create a structured outreach and awareness strategy to reach out to every possible stakeholder, primarily students and faculty members.
    ii.   Through institute circular, web portal, mailers, newsletters, social media and frequent activities core agendas of AICTE Student Start-up Policy need to be propagated.
    iii. The benefits of Student Innovation & Start-up efforts & allied support systems to different stakeholders need to be clearly communicated.
    iv.   In the beginning of every academic session institute should do a campaign so that freshly inducted students are made aware about the agendas and available support systems.
    v.   Faculty members, Principals, Deans, Directors, Institute Promoters need to be sensitized about student innovation and start-up agenda.
    vi.   The outreach strategy should be student centric and periodic so that innovators can benefit at any point and location.
    vii. Through periodic conferences and workshops the head of institute need to inform institute specific efforts to all affiliating stakeholders.
    viii. Institute need to reach out to stakeholders of local and national innovation and start-up ecosystems.

4. **Infrastructure to support student Innovators & Start-ups**
    i.   Each institute should develop infrastructure for basic pre incubation and innovation facility at college level.
    ii.   As per the mandate of TEQIP, participating Institutes can provide a bare minimum infrastructure support, like soft infrastructure and digital tools.
    iii. Around 600 square feet of innovation space at institute level can be provided to start with for supporting for student innovation and entrepreneurship.
    iv.   Institute can pool in some common resources for different branches, streams, domain which can be shared through a common window to benefit students and innovators.

5. **Human Resource to execute TEQIP mandate on Innovation & Start-ups at Institute level**.
    I.   Each institute should have Student Innovation & Start-up coordinator who would be closely working with the office of the head of the institute to develop and deploy strategies at institute level.
    II.   A competent resourceful faculty/staff of the institute can be given the task to effectively deploy AICTE Start-up agenda at grassroots level in college. Institute can depute some of the relevant faculty members with prior

exposure and interest for training to promote innovation and entrepreneurship

III. Periodically some external subject matter experts need to be involved and engaged for strategic advice and guidance through QCBS of procuring consultancy services.

IV. Student volunteers, interns, research assistants can also be added to the efforts of the concerned Institute Innovation and Start-up Centre/cell.

6. **Setting Milestones**

   i. Each institute roadmap should clearly mention how a sustainable innovation, pre incubation and incubation support system need to be developed to achieve time bound goals.

   ii. The action plan should prioritize targets like low cost, medium cost and high cost interventions.

   iii. Each institute should have a tentative target to spin off certain number of patents/IPR and student entrepreneurs in given time frame.

   iv. Measurable goals and Key Performance Indicators (KPIs) should be clearly defined and quantifiable so that impact can be measured and monitored.

   v. The Innovation & Start-up cell/Club should also recommend a list of basic milestones with roadmap to its departments, branches etc.

   vi. The milestone and target should try to cover maximum action points as prescribed in AICTE Start-up Policy through institute level interventions.

7. **Creating innovation pipeline/funnel at institute level**

   i. Carefully designed efforts need to be carried out to ensure that maximum students at their early stage get exposure to innovation and pre incubation activities by inviting first generation local entrepreneurs to address young minds.

   ii. Students who show some potential after basic sensitization should be given further support in ideation stage.

   iii. Institution can organise different competitions/workshops inviting concepts and innovative ideas.

   iv. When students/ team of students try to develop proof of concept necessary support system needs to be enabled.

   v. Innovators whose prototype gets validated need to be integrated towards structured pre incubation program.

   vi. All above efforts need to be carried out across sectors and departments every academic year so that maximum innovators try to take their proof of concept to next stage. This will strengthen the innovation funnel of the respective college/institute.

vii. The quality of ideas and innovation will emerge through a strong pipeline of above efforts.

viii. Necessary support systems resources linkages, access to mentoring and allied services will push more number of ideas to reach to next stage.

ix. Some necessary academic and university level intervention can rejuvenate the entire innovation funnel.

x. On-going academic research, student projects, thesis and other hobby activities will create enough critical mass to add to this innovation pipeline if a structured approach is followed.

xi. Institute should give special emphasis to establish this innovation pipeline in sustainable manner so that in every academic cycle some good innovations complete the trajectory of mind to market.

8. Creating strategy for Institute Innovation & Start-up Ecosystem Development

i. Each institute should clearly locate key stakeholders who can add value to its action agenda related to Student Innovation & Start-up Support & help in efforts to promote innovation & entrepreneurship in the campus.

ii. Rather than only events and activities college should have a clear end to end innovation ecosystem design approach.

iii. While developing the ecosystem all key 3 players: Industry, Academia and Governance; need to be closely integrated.

iv. Nearby industry chambers, clusters, civil society organizations, research institutes, start-up ecosystems enablers need to be engaged through different process in the value chain.

v. College should try to engage most of its departments, batch of students in this process so that key efforts are attempted year on year.

vi. Involving different components of the proposed ecosystem as mentioned in AICTE Start-up Policy, the college has to develop various processes to engage to integrate all efforts towards meaningful outcomes.

9. Design of Innovation & Student Start-up Support System (DiS4)

i. Each institute should create mechanism and institutional processes to fulfil the need of student innovators at local level.

ii. This innovation and student start-up support system may have some pedagogy and co-curricular component.

iii. Some efforts related to above need can also be designed through community lead interventions.

iv. The institutional mechanism at college level for the above need to be designed in such a manner so that it can be scaled up to all years reaching out to all students from 1st year till final year & even alumni.

v.   Processes and support system in this should be low cost but with maximum outreach potential.

vi.   Lookout for similar efforts for innovation and student start-up support system which have been attempted by different colleges & universities in academic environment.

vii. Each college should also explore to draw insights from its affiliating University, start-up ecosystems from within and outside the country.

10. Benchmarking and best practice deployment

i.   Institute should fetch, analyse and interpret the on-going efforts in the campus quarterly.

ii.   A common set of benchmarking indicators need to be put in place and college should create awareness about them across all stakeholders including faculty members & students.

iii. Institute should scout contextual best practices in innovation and pre incubation domain from academia so that they can be experimented within it.

iv.   Institute authority can take help of AICTE Start-up cell/TEQIP Start-up Cell at national level & respective University Innovation & Start-up Council/Centre to achieve the above goal.

v.   During annual institution evaluation process for affiliating institutes, the university (mentor institute) will carefully integrate indicators in this segment so that colleges can take them in priority. Concerned institutes should make special plan so that they can achieve the goals and score high in benchmarking process too.

vi.   Annual impact report of each institution will be fetched from each affiliated college by respective affiliating university. Colleges should actively participate in such endeavours and highlights its efforts and achievements.

11. Resource mobilisation for supporting innovation & start-up efforts

i.   Institute should year-mark some internal resources including financial and infrastructural support to add to the TEQIP resources by MHRD.

ii.   Institute should approach to industry and other organizations to avail CSR and other such resources.

iii. Institute should apply for further grants through different innovation and entrepreneurship schemes availed by State and Central agencies.

iv.   Institute should also create some of the flagship programs through which resources can be mobilized by participants and sponsors.

v.   Resources can be also mobilized through alumni networks.

vi.   Institute can apply to some private and public grant agencies which focus to support innovation and start-up activities in India.

vii. Existing infrastructural resources, lab facilities, common resources can be availed for student innovation and start-ups

viii. Competent and expert human resources from within the Institute or from outside need to be mapped and engaged so that student innovators can access them through single window facility at college level too.

ix. Institute should explore to avail and access resources from local ecosystems and communities periodically.

x. Institute should create a knowledge network involving industry, academia, expert organization, facilitators and enablers who can be leveraged periodically.

12. Leveraging TEQIP resources

i. Develop plan to leverage max support for student Innovation & Start-up agenda under TEQIP.

ii. Coordinate with TEQIP cell/AICTE Start-up Cell, affiliating University research hubs & others at different level to avail common resource facilities.

iii. Periodically with the help of the affiliating university innovation and start-up council & NPIU/AICTE Start-up Cell institute can co-design programs to build capacity of its stakeholders with input and guidance from experts.

iv. NPIU /AICTE start-up cell at national level will do periodic programs by inviting experts and policymakers to provide exposure and further guidance to all academic institutes in the state.

13. Institutionalisation and sustainability of initiatives

i. Each institute should make efforts at the highest level so that grassroots activities and interventions get institutionalized in the system.

ii. Special unit/cell/ department or such functional entities need to be dedicatedly established under the leadership of the head of the institute to deploy Student Innovation & Start-up goals.

iii. Institute should create annual budget plan to achieve the target in time bound manner.

iv. Validated experiments in pilot level from other academic systems need to be scaled up in own system to reach out to maximum student innovators and start-ups.

v. Within 2-3 years of such activities each institute should be able to establish a robust innovation and pre incubation process.

vi.   In next 5 years each institute should target to setup a dedicated incubation facility in its domain.

vii. Each college in state should make effort to ensure that most of its departments, branches, domain area kick-start basic activities related to student innovations.

14. Efforts to better Innovation, Creativity & Entrepreneurship (ICE) index

i.   AICTE start-up policy mandates to do certain bare minimum activities across all universities and affiliated institutes.

ii.   NPIU/AICTE Start-up cell will create benchmarking indicators to measure initiatives and impacts related to efforts in Innovation, Creativity and Entrepreneurship every year to gauge the current level of efforts.

iii. Universities will make special effort to sensitize about this agenda across all its affiliated colleges. Each Institute will make special effort to see that it achieves key goals as expected to fulfil through these benchmarks/indicators.

iv.   If institute needs any further support to initiate activities to fulfil such indicators they can reach out to AICTE/NPIU expert committees & respective University.

v.   Pedagogic and other necessary changes need to be embraced within the university system to improve the ICE index every year. Each institute have to make efforts to implement such mandates so that its own ICE index improves every year.

vi.   In those parameters majority of the institutions are finding difficult to address special efforts and initiatives will be intervened by NPIU Start-up Cell/AICTE Start-up Cell.

vii. Every department, college, faculty member need to be sensitized about the clear goals so that optimum output can be achieved as desired by National Student Start-up Policy.

15. Incentive design for stakeholders in Innovation Process

i.   Institute & affiliating University (mentor institute) should develop and deploy various incentive structures to make its innovation and entrepreneurship ecosystem vibrant.

ii.   Academic and non-academic incentives to promote student innovation and entrepreneurship need to be designed.

iii. Quite often non-monetary incentives like appreciation, awards, and citations trigger more creativity and innovation.

iv.   Universities will establish awards, appreciations, citations and/or such incentives to acknowledge best efforts of all stakeholders and inspire them. Each institute should actively take part in all of these and motivate young students to leverage them.

v.   Institutes can develop its own incentives to appreciate and motivate all stakeholders associated with its innovation & entrepreneurship ecosystem.

vi.   Universities will organise competitions for innovations and Start-up every year for its affiliated colleges.

vii.   Universities will take necessary measures to appreciate institutes which are doing serious efforts at campus or college level. Respective institute should plan systematically so that its students become major beneficiary.

viii. University inspection process and similar benchmarking methods will encompass efforts done by institutes as mandated by AICTE Start-up Policy. This should motivate more and more institute to come forward to take bold steps to promote student innovation & start-ups.

ix.   Institute should incentivize external experts and such stakeholders so that they can meaningfully engage and contribute to the agenda.

16. Activity and Innovation process design at institute level

i.   Each University Innovation and Start-up council will design a set of activities and recommend them to constituent colleges and university cell. Each Institute should also develop its own set of efforts to add to them and create own innovation ecosystem at respective campuses.

ii.   NPIU Start-up cell & AICTE Start-up cell at national level will also recommend a toolkit and a set of activities which each university should try to deploy.

iii.   Each institute should facilitate some process to enable and help students at ideation, proof of concept, prototype and next stages of innovation value chain.

iv.   Each institute Innovation & Start-up Centre/Club should create an annual calendar of activities and engage stakeholders.

v.   Colleges should co-design various innovation and start-up activities involving subjects and local start-up ecosystem enablers.

17. Pedagogic and academic interventions to achieve Student Innovation & Start-up Goals

i.   As per the mandate of national student start-up policy, Universities should embrace necessary pedagogic and academic changes to promote innovation and pre incubation activities. Each Institute should carefully implement those interventions to benefit its students.

ii.   The AICTE national level committee on start-ups will suggest pedagogic recommendation & will help drawing action agenda for universities and colleges. Each university & institute should make best possible effort to implement them.

iii.   Academic council and such bodies in universities will take into account about recommendations of national student start-up policy and develop university

policy frameworks. Institutes should actively take part in such deliberation in shaping such policies and also effectively deploying them.

iv. Head of the institute and competent advisory committee should review all such efforts after each cycle of academic year and suggest necessary course of actions at institute level and also share insights with respective universities and NPIU Cell/AICTE Start-up Cell at national level.

v. Student innovators, start-ups, experts need to be engaged in the dialogue process while developing the strategy so that it becomes need based.

vi. Pedagogical changes need to be done to ensure that maximum number of student projects and innovations are based around real life challenges.

18. Leverage existing infrastructure, resource and expertise for mandated Efforts to support student innovation & start-ups.

i. Institute should make a list of existing resource, infrastructure, and experts and engage them while deploying National Student Start-up Policy mandate.

ii. TEQIP grants should be utilized for new activities, process experimentation and similar endeavours to support innovation & start-ups.

iii. Existing resource, tool, labs and other academic facilities could be flexibly availed to interested student innovators and start-ups beyond regular class hours.

iv. Map expertise available among faculty members, local industry experts and other ecosystem stakeholders and leverage them time to time.

19. Inculcating innovation and student start-ups as a key activity of institute strategy

i. Institutes should aim to create mechanism which will enable minimum 1% of its graduates to be either self-employed or job creators.

ii. Placement, employability and entrepreneurship should go hand in hand so that suitable students can benefit from the respective facility.

iii. University policy makers at the highest level should drive this agenda and highlight it in key university occasions like conferences, convocations, annual celebrations and similar occasions to highlight its relevance. Each affiliating institute should also carry forward the spirit to execution level so that true impact of the National Student Start-up policy is attained.

iv. Institutes should map its core competencies and blend the innovation and start-up strategy around it.

20. Capacity building of stakeholders

i. Each constituent college should have a Student Innovation & Start-up coordinator who will be responsible for executing given mandates.

ii. The coordinator of each institute should create an annual action plan of capacity building of own college with support from respective University,

NPIU Start-up Cell/AICTE Start-up Cell and other stakeholders from local innovation & start-up ecosystem.

iii. NPIU Start-up Cell /AICTE Start-up Cell at national level will create a micro toolkit to build capacity of departments and colleges.

iv. External experts and ecosystem enablers having deep knowledge should be involved periodically.

v. University Innovation and Start-up cell will organize meet-ups and training programs for all stakeholders in every 6 months. Each institute should take maximum benefit from all such avenues.

vi. NPIU Start-up Cell /AICTE Start-up Cell at national level will provide necessary toolkits, manuals, reference materials, case studies and insightful documents which will broaden the understanding and execution ability of each university and college.

21. Inclusion, access and affordable strategy to benefit maximum student innovators

i. University should ensure that maximum of its constituent colleges take part in mandated efforts and each Institute should make strong efforts to take leadership while promoting innovation & start-ups.

ii. Institutes should create strategy to ensure that students irrespective of locations, sectors and year of study can take part through various activities at different level.

iii. Regional/Distributed innovation and entrepreneurship centres need to be established by universities if the affiliated type university is present in multiple geographical areas. In such case nearby institutes should take maximum benefits from such common resource facilities in that region and link more and more of its student innovators & start-ups so that they can benefit from these initiatives.

iv. Single point access mechanism has to be created at institute level so that the ease of accessing and benefiting from the available support system can be maximized.

v. Institutes should develop strategy to take TEQIP supported Start-up/Innovation support efforts to students of all streams/disciplines and year.

22. Collaboration & Co-creation Strategy for each Institute for promoting Innovation

i. Institutes should find potential partners, resource organizations or suitable stakeholders to co-design programs as mentioned in national student start-up mandate.

ii. Institutes may do MOU and other engagement efforts for sustainable long term cooperation with support providing organization.

iii. Institutes should collaborate with other institutes & universities in case of joint efforts to promote innovation and entrepreneurship in particular sector or geographical location of mutual interest.

iv. Universities will incentivize diverse departments, multiple institutes and similar functional entities within and outside university to come together to design and deploy joint programs. Each institute should actively take part in such endeavours and leverage those platforms to add value to its innovation ecosystem.

v. Tie up with best incubators, accelerators, innovation promotion organizations and develop joint initiatives to support student innovators and start-ups.

23. Leveraging technological platforms to integrate all efforts related to Innovation & Entrepreneurship

i. Each university (mentor institute)/Institute will create a web portal to virtually integrate all the efforts and synchronize them. Institutes should regularly update their efforts through these platforms. Colleges should update their efforts and initiatives through their own web platforms so that all stakeholders are updated and engaged virtually.

ii. Collaboration tool and digital platforms are desirable to be developed by the university/NPIU to facilitate innovation and entrepreneurship. TEQIP supported Institutes may go ahead in deploying such tools at its own portal and develop its own to engage its own students in various activities and track the impact.

iii. Widely use social media and similar broadcasting tools to share and celebrate success and progress.

iv. Create virtual repository of all student innovations/ project/thesis and allied research work so that best of them can be supported through innovation and pre incubation support facility of under TEQIP Support.

v. ICT enabled knowledge management tools need to be developed by universities & colleges to integrate all efforts end to end and optimally harness creative potential of young minds.

vi. Actively engage with NPIU Start-up cell /AICTE Start-up cell at national level so that various benefits can be directly linked to student innovators and start-ups at respective college level. This will help each stakeholder stay connected and engaged. This will also create lateral learning opportunity so that colleges can learn from best practices from each other and grow further.

24. Codification, documentation and dissemination of Student Innovation & Start-up efforts at Institute level.

i. Each institute should try to analyse its own existing efforts related to student innovation and start-ups, so that the further development strategy could be developed.

ii. Documenting and sharing existing scenario of innovation and entrepreneurship critical mass among all stakeholders within the college will help further. Such reports can also be shared with NPIU Start-up cell/AICTE Start-up cell at national level.

iii. Informal activities and efforts being carried out to promote innovation & entrepreneurship needs to be streamlined and promoted by the institute.

iv. Measurement of mandated activities will be carried out by introducing new indicators in on-going institute evaluation process by concerned university (Mentor Institute) and each institute should actively take part in it and share its learning. Some of these can be also added into TEQIP outcome measurement KPI.

v. Reports and insights at each institute level while promoting innovation & start-ups should be developed and shared with all associated stakeholders periodically.