









# Teachers as Transformers Innovations in Gujarat's State Schools

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# Teachers as Transformers: Innovations in Gujarat's State Schools

# ભૂપેન્દ્રસિંહ ચુડાસમા



ક્રમાંકઃ શિ.કા.ન્યા.અ.ના.પુ.પં.ગ્રા.ગૃ.નિ.ગ્રા.વિ./

મંત્રી,

**શિક્ષણ, (પ્રાથમિક, માધ્યમિક, પૌઢ), ઉચ્ચ અને ટેકનિકલ શિક્ષણ,** કાયદો અને ન્યાયતંત્ર, અગ્ન, નાગરિક પૂરવઠો, ગ્રાહકોની બાબતો અને પંચાયત, ગ્રામ ગૃહ નિર્માણ, ગ્રામ વિકાસ, ગુજરાત રાજય, સ્વર્ણિમ સંકુલ-૧, બીજો માળ, સચિવાલય, ગાંધીનગર



તા.૧/૨/૨૦૧૪

# શુભેચ્છા સંદેશ

ગુજરાત રાજયમાં પ્રાથમિક શિક્ષણ ક્ષેત્રે નવાચારો થકી ગુણવત્તા સુધારણા માટે પ્રાથમિક શિક્ષણક્ષેત્રમાં નવતર પ્રયોગ કરનાર ૧૦૦ ઈનોવેટીવ ટીચર્સનો વર્કશોપ તારીખ. ૫ - ૬, ફેબ્રુઆરી,૨૦૧૪ દરમિયાન જીસીઈઆરટી,ગાંધીનગર ખાતે યોજાયેલ છે તે જાણીને આનંદ થયો છે.

જીસીઈઆરટી,રવિ મથ્થાઈ સેન્ટર ફોર એજચુકેશનલ ઈનોવેશન,ધ ઈન્ડીયન ઈન્સ્ટિટચુટ ઓફ મેનેજમેન્ટ,અમદાવાદ તથા ગુજરાત શૈક્ષણિક નવીનીકરણ આયોગ દ્વારા શિક્ષણમાં નવાચારો અંગે MOU થયેલ.જેના ભાગરૂપે ત્રણેય સંસ્થાઓ દ્વારા પ્રાથમિક શિક્ષણમાં નવાચારો અંગે પ્રશંસનીય કાર્ય કરવામાં આવેલ છે.

માનનીય મુખ્યમંત્રીશ્રી પણ શિક્ષણના નવાચારો વિશે સતત ચિંતનશીલ છે. તેમના ચિંતનના પરિણામ સ્વરૂપે જ ગુજરાતમાં તેમના માર્ગદર્શન ફેઠળ ગુજરાત નવીનીકરણ આયોગ (GEIC) નોલેજ કોન્સોર્ટીયમ ઓફ ગુજરાત (KCG) જેવી સંસ્થાઓની સ્થાપના થઈ શકી છે.

આજના શુભપ્રસંગે સન્માનિત થનારા તમામ ઈનોવેટીવ ટીચર્સને કું અભિનંદન પાઠવું છું અને જીસીઈઆરટી, રવિ જે મથ્થાઈ સેન્ટર ફોર એજયુકેશનલ ઈનોવેશન સેલ- ઈન્ડિયન ઈન્સ્ટિયુટ ઓફ મેનેજમેન્ટ, અમદાવાદ તથા ગુજરાત શૈક્ષણિક નવીનીકરણ આયોગને આવું સુંદર અને નવીન કાર્ય શરૂ કરવા બદલ અભિનંદન પાઠવું છું.

આજે અત્રે આવેલા તમામ ઈનોવેટીવ ટીચર્સની એક 'ઈનોવેશન બુકલેટ પ્રકાશિત થાય છે ત્યારે ગુજરાતના તમામ શિક્ષકો તેમાંથી પ્રેરણા-પ્રોત્સાફન અને માર્ગદર્શન મેળવી તેઓ પણ કંઈક નવું કરવા વિચારતા થશે તો વિશેષ ફર્ષ થશે. આવનારા દિવસોમાં વધારેને વધારે શિક્ષકો આ કાર્યમાં જોડાય અને નવતર પ્રયોગો કરવા પ્રેરાશે તો આનંદ થશે.

સૌને શુભેચ્છાઓ અને શુભકામનાઓ

(ભૂપેન્દ્રસિંહ ચુડાસમા)

કાર્યાલય ફોન ઃ ૦૭૯-૨૩૨૫૦૧૧૬ થી ૨૩૨૫૦૧૧૯, ૨૩૨૩૮૦૭૬, ૨૩૨૪૩૩૮૯ (ફેક્સ)૨૩૨૫૦૧૨૦ નિવાસસ્થાન ઃ બંગલ નં. ૧૦, માન.મંત્રીશ્રી નિવાસ્થાન સંકુલ , ફોન (રહેઠાશ) ૦૭૯-૨૩૨૫૯૬૦ ૨૩૨૫૯૫૯૮, ૨૩૨૨૨૬૧૭ E-mail: min-education@gujarat.gov.in

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# ्रिस्टि सन्दमेव जयते

# નાનુભાઈ વાનાણી

**ક્રમાંક** : રા.ક.મં/જ.સં.(ક.સિ.)શિક્ષણ(પ્રા.મા. અને પ્રૌ.) ૨.ગ.યુ.સે.સાં.પ્ર./**૨૦** (<sup>1</sup>૨૦૧૩</sup> ૨ાજ્ય કક્ષાના મંત્રી, જળસંપત્તિ (કલ્પસર સિવાય), શિક્ષણ, (પ્રાથમિક, માધ્યમિક અને પ્રૌઢ), ૨મત-ગમત, યુવા સાંસ્કૃતિક પ્રવૃત્તિઓ ગુજરાત સરકાર બ્લોક નં. ૨/૪, સચિવાલય, ગાંધીનગર-૩૮૨ ૦૧૦. તારીખ : FEB 2014

# શુભેચ્છા સંદેશ

ગુજરાત રાજયના પ્રાથમિક શિક્ષણક્ષેત્રમાં નવતર પ્રયોગ કરનાર 100 ઈનોવેટીવ ટીચર્સનો વર્કશોપ તારીખ 5-2-14 થી તા. 6-2-14 દરમિયાન જીસીઈઆરટી,ગાંધીનગર ખાતે યોજાયેલ છે.તે જાણીને વિશેષ આનંદ થયો છે.

IIM અમદાવાદ દ્રારા ગુજરાત રાજયના પ્રાથમિક શિક્ષણક્ષેત્રમાં નવતર પ્રયોગ કરનાર 100 ઈનોવેટીવ ટીચર્સની પસંદગી થઈ છે. આ ઈનોવેટીવ ટીચર્સ સાથે સીધો સંવાદ થવાનો છે. જીસીઈઆરટી ખાતે તેમના નવાચારોનું એક પ્રદર્શન પણ યોજાવાનું છે. તેઓ આ નવતર પ્રયોગોને અન્ય સાથે વફેંચવાના છે. જેથી તેમના અનુભવો અને નવા વિચારોના આદાન પ્રદાન દ્વારા રાજયની શિક્ષણ સંસ્થાઓના શિક્ષણની ગુણવત્તા સતત વધતી જ રફે.

જીસીઈઆરટી,રવિ મથ્થાઈ સેન્ટર ફોર એજયુકેશનલ ઈનોવેશન,ધ ઈન્ડીયન ઈન્સ્ટિટયુટ ઓફ મેનેજમેન્ટ,અમદાવાદ તથા ગુજરાત શૈક્ષણિક નવીનીકરણ આયોગ દ્વારા શિક્ષણમાં નવાચારો અંગે એક સંયુકત પ્રયાર શરૂ કરવામાં આવ્યો છે અને આ માટેના MOU જાન્યુ-2013 માં કરવામાં આવ્યા ફતા. આ અનુસંધાને રાજયના તમામ જિલ્લાઓમાં ડાયેટ ઈનોવેશન સેલ (DIC) ની રચના કરવામાં આવી છે. જેના દ્વારા સમગ્ર રાજયમાંથી આજ દિન સુધી શિક્ષણમાં છ ફજાર જેટલા નવતર પ્રયોગોનું સબમીશન થયેલું છે. જેમાંથી 100 ઈનોવેટીવ ટીચર્સ તેમના શિક્ષણના નવાચારો લઈને આજે અફીં ફાજર છે તે જાણીને અત્યંત આનંદની લાગણી અનુભવું છું.

આજે અત્રે આવેલા 100 ઈનોવેટીવ ટીચર્સની એક 'ઈનોવેશન બુકલેટ IIM અમદાવાદ પ્રકાશિત કરે છે ત્યારે ગુજરાતના તમામ શિક્ષકોને તેમાંથી માર્ગદર્શન મળશે અને તેઓ પણ કંઈક નવું કરવા વિચારતા થશે.

આજના આ પ્રસંગે સન્માનિત થનારા આપ સૌ શિક્ષક મિત્રોને કું ફાર્દિક અભિનંદન પાઠવું છું અને આશા રાખું છું કે આવનારા દિવસોમાં વધારેને વધારે શિક્ષકો ઈનોવેટીવ પ્રેકટીસમાં જોડાય અને આ પ્રોજેકટ દ્વારા નવતર પ્રયોગો આદરે.

આજના પ્રસંગે જીસીઈઆરટી,રવિ મથ્થાઈ સેન્ટર ફોર એજયુકેશનલ ઈનોવેશન,ધ ઈન્ડીયન ઈન્સ્ટિટયુટ ઓફ મેનેજમેન્ટ,અમદાવાદ તથા ગુજરાત શૈક્ષણિક નવીનીકરણ આયોગ ને સંયુકતરૂપે આવું સુંદર કાર્ય શરૂ કરવા અભિનંદન પાઠવુ છું અને દરેકને શુભેચ્છા પાઠવુ છું.

(નાનુભાઈ વાનાણી)

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સંગીતા સિંહ, આઇ.એ.એસ. અગ્ર સચિવ. (પ્રાથમિક શિક્ષણ)



શિક્ષણ વિભાગ ગુજરાત સરકાર બ્લોક નં. પ, આઠમો માળ, સરદાર ભવન, સચિવાલય. ગાંધીનગર-૩૮૨ ૦૧૦. તારીખ :

રાજ્યના પ્રાથમિક શિક્ષણક્ષેત્રમાં નવતર પ્રયોગ કરનાર 100 ઈનોવેટીવ ટીચર્સ માટે જીસીઈઆરટી, ગાંધીનગર ખાતે બે દિવસીય કાર્યક્રમ યોજાનાર છે તે જાણીને ફર્ષની લાગણી અનુભવુ છું. ગુજરાત રાજ્યમાં શિક્ષણ ક્ષેત્રે નવાચારો કરવા પ્રેરાય તે માટે શિક્ષકોને જરૂરી વાતાવરણ મળી રહે અને વધુને વધુ શિક્ષકો-પ્રશિક્ષકો ઈનોવેટીવ પ્રેકટીસ કરવા માટે પ્રેરાય તે માટે આ કાર્યક્રમ શરૂ કરવામાં આવ્યો છે.

જીસીઈઆરટી,રવિ મથ્થાઈ સેન્ટર ફોર એજયુકેશનલ ઈનોવેશન,ધ ઈન્ડીયન ઈન્સ્ટિટયુટ ઓફ મેનેજમેન્ટ,અમદાવાદ તથા ગુજરાત શૈક્ષણિક નવીનીકરણ આયોગ વચ્ચે જાન્યુ-2013માં થયેલા MOU અંતર્ગત ત્રણેયના સંયુકત ઉપક્રમે આ કાર્યક્રમ કરવામાં આવ્યો છે,જે આનંદની વાત છે.

ગુજરાત રાજ્યના માનનીય મુખ્યમંત્રીશ્રી પણ શિક્ષણમાં ઈનોવેશન પ્રેકટીસ અંગે ચિંતનશીલ છે અને તેમના માર્ગદર્શન દેઠળ ગુજરાત શૈક્ષણિક નવીનીકરણ આયોગ અને નોલેજ કોન્સોર્ટીયમ ઓફ ગુજરાત જેવી સંસ્થાઓની સ્થાપ્ના થઈ ચૂકી છે.આ સંસ્થાઓનું મુખ્ય કાર્ય શિક્ષણ જગતમાં થતા નવાચારોને ઓળખવાનું, તેની ડોકયુમેન્ટરી બનાવી અન્ય લોકો સાથે વહેંચવાનું અને વાતાવરણ નિર્માણ કરવાનું છે. જેથી વધારેને વધારે શિક્ષકો શિક્ષણમાં નવતર પ્રયોગો કરી શકે.

જીસીઈઆરટી દ્વારા રાજ્યના તમામ ડાયેટસમાં ડિસ્ટ્રીકટ ઈનોવેશન સેલની (DIC)ની સ્થાપના થઈ છે અને તેના દ્વારા 6000 જેટલા ઈનોવેશન સબમીટ થયેલ છે. જેમાંથી 100 ઈનોવેટીવ ટીચર્સ માટે કાર્યક્મ રાખ્યો છે. જીસીઈઆરટીમાં તેમના શિક્ષણમાં નવતર પ્રયોગોની ચર્ચા થશે, શેરીંગ થશે અને પ્રદર્શન પણ યોજાશે એ વાત જાણી અત્યંત આનંદની લાગણી મફેસુસ કરુ છું.

આવા કાર્યક્રમથી નવતર પ્રયોગોનો રાજય અને દેશના તમામ શિક્ષકોને લાભ મળશે. આપ સંકુને અનુરોધ છે કે આ કાર્ચમાં આપણી શાળાના સૌ શિક્ષકો-શિક્ષિકાઓને જોડો, જેથી બધા શિક્ષકો નવતર પ્રયોગોની જાણકારી મેળવી તેને કંઈક નવું કરતા થાય અને શિક્ષણ વધુ ગુણવત્તસભર બને.

આજના પ્રસંગે જે ત્રણેય સંસ્થાઓના સંયુકત ઉપક્રમે આ કાર્યક્રમ યોજાઈ રહ્યો છે તે સૌને અભિનંદન પાઠવું છું અને ભવિષ્ય માટે શુભેચ્છાઓ પાઠવું છું. આજના પ્રસંગે સન્માનિત થનારા સૌ પ્રાથમિક શિક્ષક મિત્રોને અભિનંદન આપું છું અને આશા રાખું છું કે આવનારા દિવસોમાં વધારેને વધારે શિક્ષકો આ કાર્યમાં જોડાય અને નવતર પ્રયોગો કરવા પ્રેરાય.

Kangula ling ( Hioll ( His)

અગ સચિવ(પા.શિ.)

સૌને શભેચ્છાઓ.



**નિયામ<del>ક</del>** એમ. ટી. શાફ stis : જીસીઈઆરટી/તાલીમ/૨૦૧૩-૧૪/ ગુજરાત શૈક્ષણિક સંશોધન અને તાલીમ પરિષદ, 'વિદ્યાભવન', સેક્ટર-૧૨, ગાંધીનગર. કોન : (079) 23256808-39 નિયામક : (079) 23256808 સચિવ : (079) 23256813 સેક્સ : (079) 23256812 ઈ-મેઈલ : director-gcert@gujarat.gov.in Web : www.gcert.gujarat.gov.in તારીખ :

# શુભેચ્છા સંદેશ

પ્રાથમિક શિક્ષણમાં નવતર પ્રયોગો કરનાર રાજયના પ્રાથમિક શિક્ષકોને બિરદાવવા અને તેમના કામનું શેરીંગ કરવા માટે જીસીઈઆરટી ખાતે બે દિવસીય સેમિનારનું આયોજન કરવામાં આવ્યું છે.જીસીઈઆરટી,રવિ જે મથ્થાઈ સેન્ટર ફોર એજયુકેશનલ ઈનોવેશન- ઈન્ડિયન ઈન્સ્ટિયુટ ઓફ મેનેજમેન્ટ, અમદાવાદના તેમજ ગુજરાત શૈક્ષણિક નવીનીકરણ આયોગ, સંયુકત ઉપક્રમે આ કાર્યક્રમ શરૂ કરવામાં આવ્યો. આ માટેના જાન્યુ.-2013માં MOU થયેલા છે.

શિક્ષણમાં નવાચાર જેવા ઉમદા કાર્યક્રમને વેગ આપવા રાજયના તમામ જિલ્લા શિક્ષણ અને તાચલીમ ભવનમાં ડિસ્ટ્રીકટ ઈનોવેશન સેલ (DIC)ની રચના કરવામાં આવી છે. જેના દ્વારા 6000 જેટલા ઈનોવેશન્સ મળ્યાં છે. જેમાંથી IIM અમદાવાદે 100 ઈનોવેટીવ ટીચર્સની પસંદગી કરી છે જેનો આજે કાર્યક્રમ છે. ઈનોવેટીવ કાર્ય કરનાર સૌ ઇનોવેટીવ શિક્ષકમિત્રોને અભિનંદન પાઠવું છું.

આ પ્રોજેકટ અંતર્ગત રાજયની પ્રાથમિક શાળાઓમાં કાર્યરત શિક્ષકો-શિક્ષિકાઓ સંચાલકો દ્રારા ફાથ ધરાયેલ નવતર પ્રયોગો કે જેના કારણે બાળકોને અભ્યાસની ગુણવત્તામાં સુધારો થતો ફોય તેને પ્રમાણિત કરવા અને તેનું દસ્તાવેજીકરણ કરવાનું કાર્ય પણ ગયા વર્ષે કરવામાં આવ્યું. તેમાના 100 ઈનોવેટીવ ટીચર્સ, બીઆરસી, સીઆરસી તથા કો-ઓર્ડીનેટર આજે ફાજર છે.

અફીં સન્માનિત થયેલ દરેક શિક્ષક-શિક્ષિકાઓ સફિત અન્ય સૌ શિક્ષકોનવતર પ્રયોગો કરતાં રફે તો ગુણવત્તસભર શિક્ષણની જયોત સદાયે જલતી રફે. આ નવતર પ્રયોગોમાંથી શાળાઓ,શિક્ષક તાલીમ સંસ્થાઓ, અન્ય શૈક્ષણિક સંસ્થાઓ અને અન્ય લોકો પ્રેરણા મેળવી નવતર કાર્યમાં જોડાશે તો અત્યંત આનંદ થશે.

આજના પ્રસંગે સન્માનિત થનારા 100 ઈનોવેટીવ ટીચર્સને હું અભિનંદન આપું છું અને જીસીઈઆરટી, રવિ જે મથ્થાઈ સેન્ટર ફોર એજયુકેશનલ ઈનોવેશન સેલ- ઈન્ડિયન ઈન્સ્ટિયુટ ઓફ મેનેજમેન્ટ, અમદાવાદ તથા ગુજરાત શૈક્ષણિક નવીનીકરણ આયોગને આવું સુંદર કાર્ય શરૂ કરવા માટે

અભિનંદન પાઠવું છું અને સોનેરી ભવિષ્ય માટે સૌને શુભેચ્છાઓ પાઠવું છું.

(એમ.ટી.શાફ) નિયામક જીસીઇઆરટી,ગાંધીનગર

# શિક્ષણમાં સમાવેશન – નવીનીકરણ

પૃથ્વી પર અવતરેલા પ્રત્યેક બાળકને ગુણવત્તાલક્ષી શિક્ષણ પ્રાપ્ત થાય તેની ચર્ચા વિશ્વભરમાં થતી રહે છે. ઘણા ઉપાયો પણ સૂચવવામાં આવી રહયા છે. તેમજ ઘણા પ્રયાસો થઈ પણ રહયા છે. ત્યારે ગુજરાત રાજયમાં 2009 થી ગુજરાત શૈક્ષણિક નવીનીકરણ આયોગ (GEIC) ની રચના કરવામાં આવેલ છે. શિક્ષણના ક્ષેત્રમાં નવીનત્તમ પ્રયોગ કરનારને શોધી યોગ્ય પ્રોત્સાહન આપવામાં (IIM) અમદાવાદમાં શ્રી રવી જે મથ્થાઈ સેન્ટર ઓફ એજયુકેશનની ભૂમિકા નોંધપાત્ર રહી છે. વળી, આવા પ્રયોગશીલ શિક્ષકો સાથે જેમનો જીવંત નાતો રહ્યો છે. તેવી જીીસીઈઆરટી સંસ્થા વ્યકિતગત રીતે અને જીવંત શિક્ષણ માસિક માધ્યમથી ગુણવત્તાલક્ષી શિક્ષણના પ્રયાસો કરનારને પ્રેરકબળ પૂરૂ પાડી રહ્ય છે.

સોનામાં સુગંધ ભળે તે રીતે ઉપરોક્ત ત્રણેય સંસ્થાઓ સાથે મળીને કાર્ય કરે તે અંતર્ગત રાજય સરકાર ઘ્વારા આયોજીત એજયુકેશન સમિટમાં પ્રયોગશીલ શિક્ષકોને પ્રોત્સાહિત કરવાના MOU કરવામાં આવ્યા. જીસીઈઆરટીના જિલ્લા એકમ – જિલ્લા શિક્ષણ અને તાલીમ ભવનોમાં Innovation cell ની સ્થાપના કરવામાં આવી. પ્રયોગશીલ શિક્ષકોને શોધી તેમની માહિતી મેળવીને IIMCAS સુધી પહોંચાડવાનું ભગીરથ કાર્ય તેમના ઘ્વારા થયું. આજસુધી ૦૦૦૦ જેટલા પ્રયોગો નોંધાયા છે. જે પૈકી પ્રથમ તબકકામાં ૧૦૦ જેટલા શિક્ષકોને પ્રોત્સાહન મળે તે માટે અને એકબીજા ઘ્વારા નવું શીખવા માટે એક Sharing વર્કશોપનું આયોજન તા.પ, *દ* ફેબ્રુઆરી દરમ્યાન જીસીઈઆરટીમાં થઈ રહયું છે. જે આપણા સૌ માટે આનંદનો વિષય છે.

ભૂતકાળમાં જઈને જોઈએ તો ખ્યાલ આવે છે કે શિક્ષણના ઘ્યેયને પ્રાપ્ત કરવા માટે નામાંકન, સ્થાયીકરણ અને ગુણવત્તાના વિવિધ તબકકે આપણે ત્યાં અનેક પ્રયોગો થયા છે. તેમાંથી પાલનપુરના ડીસામાં ઝુંપડપટીમાં વસતા બાળકોને અનેક પ્રયાસો છતાં શાળાએ ન મોકલતા વાલીઓને પ્રેમલતાબેન જોખી જેવા શિક્ષિકાએ રક્ષાબંધન કરી, પસલીમાં શાળા માટે બાળકો મેળવ્યા તો કચ્છમાં કન્યાઓ તથા તેઓની માતાને ઢ્રાફ્ટ શીખવીને તેના માઘ્યમથી દીકરીઓના શિક્ષણ માટે જોહરાબેન ઢોલીયાએ પ્રયાસ કર્યા છે, સાબરકાંઠામાં શ્રી મોતીભાઈ નાયક તથા શ્રી રમણભાઈ સોનીએ નાટક, લોકસાહિત્ય પ્રવૃતિ દ્વારા શિક્ષણ જેવા પ્રયોગ કર્યા, વલ્લભીપુરમાં અજીતસિંહ સોલંકીએ રોડ ઓળંગીને શાળાએ ન જઈ શકનાર બાળકો માટે નવી શાળાનું નિર્માણ તો મંજીભાઈ પ્રજાપતિએ TLM ઘ્વારા ગુણવતાવાળું શિક્ષણ આપવાના પ્રયોગો કર્યા જે નોધપાત્ર રહયા છે.

શિક્ષણમાં સૌનું સમાવેશન કરવા માટે હવે ઘણા જ નવીન પ્રયોગોની (Innovation) જરૂરીયાત રહેશે.સાર્વત્રિક શિક્ષણ અને ગુણવત્તાનો વિચાર કરીએ તો બધાં જ બાળકો શાળામાં આવે, તેમના અસ્તિત્વનો સ્વીકાર થાય અને વર્ગખંડમાં પૂર્ણપણે ભાગીદાર થાય તે માટે બધાં જ બાળકોનો શાળામાં યોગ્ય રીતે સમાવેશન કરવો જરૂરી છે.

જયારે આપણે બધાં જ બાળકોના શિક્ષણમાં સમાવેશનની વાત કરીએ છીએ. ત્યારે સાહજિક પ્રશ્ન થાય કે શાળામાં અને વર્ગખંડમાં Exclusion કયાં અને કયા તબકકે અને કોનું થાય છે તે વિચારવું રહ્યુ. શાળામાં અને વર્ગખંડમાં જેમની સક્રિય ભાગીદારી નથી થઈ શકી તેમાં કન્યાઓ, ખાસ જરૂરીયાતવાળા બાળકો (CWSN) વિવિધ સામાજિક ભૂમિકા ધરાવતા બાળકો, સ્થળાંતર કરીને આવતાં અથવા જુદી જુદી બોલીઓને કારણે ભાષાની વિવિધતા ધરાવતા બાળકો ઉપરાંત ગરીબી, કુપોષણ ધરાવતાં બાળકો મોખરે છે. પ્રત્યેક બાળકના ગુણવત્તાસભર શિક્ષણ માટે યોગ્ય રીતે શિક્ષણમાં સમાવેશન જરૂરી છે. શિક્ષણમાં પ્રત્યેક બાળકનું સમાવેશન એટલે . . . . .

- ⇒ પ્રત્યેક બાળકના અસ્તિત્વનો સ્વીકાર
- ⇒ શિક્ષણના અધિકારોનું અમલીકરણ
- ⇒ ન્યાયિક, સમતા, બંધુતા, શાંતિનું શિક્ષણ
- ⇒ શારીરિક, સામાજિક, સાંવેગિક, ભાષાકીય કે અન્ય કોઈ ભેદભાવ વગરનું શિક્ષણ

ટૂંકમાં બાળકની જાતિ, રંગ, ભાષા, ધર્મ, શારીરિક–માનસિક અક્ષમતા, અસમાન આર્થિક–સામાજિક સ્થિતિને અવગણીને દરેક બાળકની જરૂરીયાત સંતોષાય અને સશકિતકરણની સમાન તક પ્રાપ્ત થાય તે

આપણું ગુજરાત પણ વિવિધતા ધરાવતું રાજય છે. છતાં મોટેભાગે શિક્ષકો બાળકોને એક જ રીતે શિક્ષણ આપવા ટેવાયેલા છે. વર્ગમાં વિવિધતા ધરાવતા બાળકો હોય જ.મનોવૈજ્ઞાનિક દ્રષ્ટિએ વૈયક્તિક ભિન્નતાનો સ્વીકાર કરવા છતાં શિક્ષકની પધ્ધતિ મોટેભાગે એકસમાન જોવા મળે છે. આ તબકકે શિક્ષકોએ તેના વલણમાં ફેરફાર કરવો આવશ્યક છે. પ્રત્યેક બાળકની શક્તિ, મર્યાદાઓને ઘ્યાને લઈ ક્ષમતાપૂર્વકનો વ્યવહાર કરવો અપેક્ષિત છે.

રાજ્યની જુદી જુદી શાળાઓમાં નાના—મોટા સરાહનીય પ્રયાસો પણ થઈ રહ્યા છે. કેટલાક ઉદાહરણો જોઈએ તો વિવિધ બોલી ધરાવનાર વિસ્તારોમાં ડાંગથી લઈ કચ્છ સુધીના સરહદી વિસ્તારોમાં લોકબોલી પ્રશ્ન માટે શરૂઆતના તબકકે સ્થાનિક બોલીનો અસરકારક ઉપયોગ કરીને શિક્ષકે વિધાર્થીઓ માટે શબ્દકોષ દ્વારા કેતન વ્યાસ, દાનસિંગ દેવડા, રેવાભાઈ પ્રજાપતિ, ભાવેષ પંડયા જેવા ઉત્સાહી શિક્ષકોએ કાર્ય કરેલ છે. રાજપુર જેવા અત્યંત આર્થિક નબળી પરિસ્થિતિ વાળા ગામના બાળકો માટે વિવિધ પ્રવૃતિઓ, પ્રોજેકટ દ્વારા વિધાર્થી પોતાનો ખર્ચ પોતે ઉભો કરીને શિક્ષણનો આનંદ લઈ શકે તેમજ શીખવાની તરેહ (Learning style) નો અભ્યાસ કરીને તેને અનુરૂપ શિક્ષણ જાતે મેળવતા થાય તેવા પ્રયોગ બિન્દુબેન દ્વારા થઈ રહયા છે.

ભરૂચ જિલ્લાના નવા તવરા ગામમાં મહોલ્લા પ્રાર્થના તથા વિધાર્થીઓમાં રહેલ શકિતઓને ઓળખી, રસ પૂર્વક વિકાસની પ્રવૃતિઓ યોજવી તેમજ SMC ના સહયોગથી વિધાર્થીઓનું શાળામાં યોગ્ય સમાવેશનના પ્રયાસ સંગીતાબેન ખુમાર દ્વારા થઈ રહ્યા છે.

રાજકોટ જિલ્લાના જામકંડોરણા ઉજળી ગામમાં જીતેન્દ્રભાઈ ધામી દ્વારા મહતમ તિથિ ભોજન દ્વારા પૂરક પોષણક્ષમ આહાર દ્વારા વિધાર્થીઓનું સિઘ્ધીસ્તર વધારવાનો પ્રયાસ કરી રહ્યા છે.

સૂર્યપ્રકાશમાં જેની આંખો ખુલતી નથી તેવા બાળકો માટે શાળામાં જ તેની જરૂરીયાત મુજબ ખાસ વ્યવસ્થા કરનાર શિક્ષકશ્રી યોગેશભાઈ તથા શાળા પરિવાર સંવેદના બતાવી પ્રત્યેક બાળક મહત્વનું છે તેવી પ્રતિતિ કરાવી રહ્યા છે.

કલોલમાં પ્રિતીબેન ગાંધી દ્વારા વિધાર્થીઓ પૂરક વાચન કરી શકે તે માટે ફરતું પુસ્તકાલયના પ્રયોગથી શાળા પ્રત્યેનો લગાવ તથા ગુણવતામાં સુધાર દેખાઈ રહ્યો છે.

ઉપર દર્શાવેલ એવા ઘણા શિક્ષકમિત્રો આ દિશામાં આગળ વધી રહ્યા છે ત્યારે ચાલો આપણે પણ પ્રત્યેક બાળકના યોગ્ય સમાવેશન માટે સકારાત્મક વલણથી શાળામાં આવા વૈવિઘ્યને મળવાના અનોખા અવસરમાં શાળા, શિક્ષક અને સમાજ એકસાથે મળી આપણા શિક્ષકધર્મનો સાર્થક કરીએ.

> ડો. ટી. એસ. જોષી, પ્રાચાર્ય જીલ્લા શિક્ષણ અને તાલીમ ભવન ગાંધીનગર

# ડાચેટ ઇનોવેશન સેલ, આણંદ

GCERT, GEIC તથા IIMAના સંયુક્ત ઉપક્રમે રાજ્યના પ્રાથમિક શિક્ષણ માં થઇ રહેલા નવતર પ્રયોગોને ઓળખવાનું અને તેને ડોક્યુમેન્ટ કરી વિવિધ માધ્યમોથી પ્રકાશિત કરવાનું ધ્યેય છે. આ માટે ઉપરોક્ત ત્રણેય સંસ્થાઓ વચ્ચે જાન્યુઆરી ૨૦૧૩માં એક મેમોરન્ડમ ઉપર હ્સ્તાક્ષર પણ કરવામાં આવ્યા હતા. આ પ્રોજેક્ટના ભાગ રૂપે જ જીલ્લાના દરેક 'જીલ્લા શિક્ષણ અને તાલીમ ભવન'મે એક ઇનોવેશન સેલની સ્થાપના કરવામાં આવી છે, જેનું મુખ્ય કાર્ય જીલ્લામાં થઇ રહેલા નવતર પ્રયોગોને ઓળખવાનું અને તેનું ડોક્યુમેન્ટેશન થાય તે સુનિશ્ચિત કરવાનું છે.

GCERT ગાંધીનગર ખાતે તા: ૧૫ અને ૧૬ ફેબ્રુઆરી ૨૦૧૩ના રોજ યોજાયેલ 'ઇનોવેશન સેલ મીટીંગ' બાદ જીલ્લા શિક્ષણ અને તાલીમ ભવન, આણંદ ખાતે ડાયેટ ઇનોવેશન સેલની સ્થાપના કરવામાં આવી હતી જેના અધ્યક્ષ સંસ્થાના પ્રાચાર્ય ડો. હિતેશ દવે તથા કો-ઓર્ડીનેટર તરીકે સંસ્થાના સી.લે. ડો. સતીશ તિવારી, લેકચરર ધર્મેશ પટેલે કામગીરી સાંભળી હતી.

ઇનોવેશન સેલનું પ્રથમ બ્રોશર જે ઇનોવેશન સેલ આણંદને મળ્યું તે આણંદ જીલ્લાની ૧૦૫૫પ્રાથમિક શાળાઓ સુધી BRCCની મદદ થી પહોંચાડવામાં આવ્યું.

આણંદ જીલ્લામાં DICની કામગીરી તથા તેના પ્રયાર-પ્રસાર કરવા માટે અત્રેના ડી દ્વારા તા: 0૨/૦૫/૨૦૧૩ના રોજ ઇનોવેશન સેલ મીટીંગ, ડાયેટ વલાસણ (આણંદ) ખાતે બોલાવવામાં આવી, જેમાં ડાયેટના પ્રાચાર્ય , સિ. લે., લેકચરર, કેળવણી નિરીક્ષકો, બી.આર.સી. કો-ઓર્ડીનેટર્સ, સી. આર. સી. કો-ઓર્ડીનેટર્સ તમામને નવતર પ્રયોગની લાક્ષણીકતા, વર્ગ-ખંડમાં, વર્ગ-ખંડ બહાર વિભાગ અનુસાર કેવા પ્રયોગો થઇ શકે તેની સમજ, સબમિટ કરવા માટે ઓન-લાઈન સમજ ઈન્ટરનેટ અને પાવર પોઈન્ટ પ્રેઝન્ટેશનની મદદથી આપવામાં આવી હતી જેમાં ૧૩૨ સભ્યોએ તાલીમ મેળવી હતી.

ઇનોવેશન સેલનું દ્વિતીય સુધારાત્મક બ્રોશર પણ શાળા સુધી એ જ પ્રક્રિયા થકી પહોંચાડ્યું હતું. આ માહિતી શિક્ષકો સુધી પહોંચતા ઉત્સાહી એવા ઇનોવેટીવ શિક્ષકોએ ઓન-લાઈન એન્ટ્રી કરાવેલ હતી. એન્ટ્રીમાં પ્રશ્ન/મુશ્કેલી ઉદભવતા DIC કો-ઓર્ડીનેટરના પર્સનલ નંબર પર જે-તે શિક્ષકો એ ફોન કરી માર્ગદર્શન તથા માહિતી મેળવી હતી. ટેલીફોનીક અને વ્યક્તિગત માર્ગદર્શન થાકી શિક્ષકોને મોટીવેટ કરવાના વધુ પ્રયત્નો હાથ ધર્યા હતા.

DIC આણંદ દ્વારા તા ૨૯૮૦૭/૨૦૧૩ તથા ૩૦૮૦૭/૨૦૧૩ ના રોજ ઇનોવેશન મોનીટરીંગ ટીમ નિર્માણ કરવામાં આવી તેમાં ૩૧ સભ્યોએ હાજરી આપી હતી જેમાં તાલુકાવાર ઇનોવેશન મોનીટરીંગ ટીમનું નિર્માણ તથા કામગીરીની સોંપણી કરવામાં આવી હતી. દરેક BRC ભવન પર સુધારાત્મક વર્કશોપ ગોઠવવામાં આવી. દરેક તાલુકામાં તાલુકા ઇનોવેશન કમિટિ (TIC)ની રચના કરેલ હતી જેની મદદથી તાલુકામાં ઇનોવેશન કરનાર શિક્ષકો દ્વારા ઓન-લાઈન એન્ટ્રી કરી હતી તેમાં સુધારા વધારાની કામગીર કરવામાં આવી હતી.

મોનીટરીંગ ટીમ દ્રારા દરેક તાલુકામાં જઈ વ્યક્તિગત માર્ગદર્શન ઇનોવેટીવ શિક્ષકોને આપવામાં આવ્યું. આનાથી આણંદ જીલ્લામાં ઇનોવેટીવ કાર્ય કરવા માટેનું એક સારા વાતાવરણનું નિર્માણ શક્ય બન્યું છે.

#### આગામી સમય માટે આયોજન

જીલ્લાના દરેક તાલુકામાં ઇનોવેશન સેલ મોનીટરીંગ કમિટીની મદદથી તાલુકાના ઇનોવેટીવ શિક્ષકોને પ્રોત્સાહિત કરવામાં આવશે. સાથે જ, DIC-આણંદ દ્વારા જીલ્લા કક્ષાએ ઇનોવેશન સેલની મીટીંગ બોલાવી તાલુકા ઇનોવેશન મોનીટરીંગ કમિટીના સભ્યોને પ્રોત્સાહિત કરવામાં તથા તેમનું માર્ગદર્શન કરવામાં આવશે. DIC અને TIC દ્વારા એવા પ્રયાસો કરવામાં આવશે, જેથી જીલ્લામાં ઇનોવેશન સેલની પ્રવૃત્તિઓ ને બળ મળે તથા ઇનોવેટીવ પ્રવૃત્તિઓ કરવા માટે ઉપર્યુક્ત વાતાવરણનું નિર્માણ થાય.

# જિલ્લા શિક્ષણ અને તાલીમ ભવન, વડોદરા. ડાયેટ ઈનોવેશન સેલ - વડોદરા

કેળવણી એ માનવીના સશક્તિકરણની પ્રક્રિયા છે. જેના દ્વારા માનવજીવન બહેતર તેમજ ઉન્નત બનાવી શકાય છે. તેમજ કેળવણી દ્વારા જીવનની ઉત્કૃષ્ટ ગુણવત્તા પ્રાપ્ત કરી શકાય છે. પ્રાથમિક શિક્ષણએ પાયાનું શિક્ષણ છે. કહેવાય છે કે શાળા એ સમાજની લઘુ આવૃત્તિ છે, જે સામાજિક, સાંસ્કૃતિક વિવિધતા પ્રદર્શિત કરે છે. અહીં, પ્રાથમિક શિક્ષણ ક્ષેત્રે બંધનમુક્ત વિચારો ધરાવતા ભૂલકાઓ સાથે થતું કાર્ય આમ પણ નવીનતાપૂર્ણ કાર્ય કરવા માટેનું પ્રેરકબળ છે. કોઇ પણ ક્ષેત્રમાં એકધારાપણું, કાર્ય કરનાર તથા તેની સાથે જોડાનાર માટે નિરસતાનું દ્યોતક બની રહે છે. કાર્યશૈલીમાં નાવીન્યતા કાર્યને દિપાવી દે છે.

પ્રાથમિક શાળાનું વાતાવરણ જ નવા વિચારો પ્રેરનારું છે. બાળ માનસ એટલે નવા પ્રશ્નોનોનો ફળદ્રુપ રસાળ પ્રદેશ. તેમની જિજ્ઞાસાવૃત્તિ, શાળા વ્યવસ્થાપન, બાળકોની હાજરી, સમાવેશન વગેરે શાળાકક્ષા તથા શાળા બહારના કેટલાક પ્રશ્નોનો ઉકેલ અમુક શિક્ષકો પોતાની કોઠાસૂઝથી લાવતા હોય છે, આવા શિક્ષકો પોતાની અંતઃપ્રેરણા અને સ્વપ્રયત્નોથી પોતાના કાર્યક્ષેત્રની મુશ્કેલીઓને નવી કાર્ય કરવાની તક સમજી નિર્ધારિત લક્ષ્યાંકો સુધી પહોંચે છે, જે અન્ય શિક્ષકો માટે પ્રેરણારૂપ સાબિત થાય છે. આવા ઇનોવેટીવ શિક્ષકોને ઓળખી તેમના નવતર કાર્યને અન્ય શિક્ષકો સુધી પહોંચાડવા માટેનું પ્લેટફોર્મ એટલે ઇનોવેશન સેલ.

વડોદરા જિલ્લામાં પ્રાથમિક શિક્ષણક્ષેત્રે નાવીન્યપૂર્ણ કામગીરી કરનાર શિક્ષકોને ઓળખી તેમણે કરેલા નવતર પ્રયોગોનું શેરીંગ થાય તથા વધુને વધુ શિક્ષકો પોતાના નવતર પ્રયોગોનું સબમિશન ઇનોવેશન સેલ પર કરે તે માટે ડાયેટ વડોદરાના ઇનોવેશન સેલ દ્વારા જીસીઇઆરટી, ગાંધીનગર તથા આઇ.આઇ.એમ.-એ.ના માર્ગદર્શન હેઠળ અનેક પ્રયત્નો હાથ ધરવામાં આવેલા છે. જે આ પ્રમાણે છે.

- ઇનોવેશન સેલ સંદર્ભે આઇ.આઇ.એમ.-એ. તથા જીસીઇઆરટી દ્વારા ડી.આઇ.સી. કો-ઓર્ડિનેટર્સ સાથે સંકલન બેઠક. - ફેબ્રુઆરી-૨૦૧૩
- ઇનોવેશન સેલના પ્રસાર અને પ્રચાર માટે જિલ્લાની તમામ શાળાઓમાં બ્રોશરનું વિતરણ. માર્ચ-૨૦૧૩
- ડાયેટકક્ષાએ જિલ્લાના તમામ તાલુકા લાઇઝન અધિકારી, બી.આર.સી. તથા સી.આર.સી. કો-ઓર્ડિનેટર્સ સાથે ઇનોવેશનના ઓનલાઇન સબમિશન માટેની સંકલન બેઠક, જેમાં શ્રી ચૈતન્ય ભટ્ટ (પ્રોજેક્ટ ઓફિસર, ઇ.આઇ. બેંક, આઇ.આઇ.એમ.-એ.)ની માર્ગદર્શક ઉપસ્થિતિ. માર્ચ-૨૦૧૩ (લાભાર્થી જૂથ સંખ્યા: )
- તાલુકાકક્ષાએ બી.આર.સી., સી.આર.સી. કો-ઓર્ડિનેટર્સ દ્વારા પોતપોતાના ક્લસ્ટરમાં તમામ શિક્ષકોને ઇનોવેશન સેલના સંદર્ભમાં માર્ગદર્શન તથા પ્રોત્સાહન. - માર્ચ-૨૦૧૩
- જિલ્લામાં માસ્ટર ટ્રેનર્સ તથા શિક્ષક તાલીમ દરમિયાન (ફેસ ટુ ફેસ તથા બાયસેગ દ્વારા) ડાયેટ ઇનોવેશન સેલ સંદર્ભે ખૂબજ વિસ્તૃત સમજ આપી તથા તેઓ સાથે શેરીંગ કરી પ્રોત્સાહિત કર્યા. મે -જુન-૨૦૧૩
- આઇ.આઇ.એમ. -એ. દ્વારા જિલ્લાની ઇનોવેટીવ પ્રેકટીસીઝ સંદર્ભે પ્રોગ્રેસ રીપોર્ટ તથા શેરીંગના ભાગરૂપે
  ડી.આઇ.સી. કો-ઓર્ડિનેટર્સ તથા ટેકનિશ્યન સાથે સંકલન બેઠક.-જુન-૨૦૧૩

- જિલ્લાની તમામ શાળાઓમાં બ્રોશર-૨ નું વિતરણ.- **જુન-૨૦૧૩**
- જિલ્લામાં બી.આર.સી. તથા સી.આર.સી. કો-ઓર્ડિનેટર્સ સાથે ડાયેટના તાલુકા લાઇઝન અધિકારીશ્રી દ્વારા તાલુકાકક્ષાએ અનુકાર્યના ભાગરૂપે હસ્તલિખિત ઇનોવેશન જમા કરાવવા માટેની સંકલન બેઠક. - જુન-૨૦૧૩
- તાલુકા તથા ન.પ્રા.શિક્ષણ સમિતિના લાઇઝન અધિકારીશ્રીના માર્ગદર્શન હેઠળ કેટલાક તાલુકાઓમાં ઇનોવેશન રાઇટીંગ વર્કશોપ યોજવામાં આવ્યા તથા તાલુકા લાઇઝન અધિકારીને હસ્તલિખિત ઇનોવેશન યુ.આર.સી. તથા બી.આર.સી. કો-ઓર્ડિનેટર મારફ્ત જમા કરાવ્યા. જુન-૨૦૧૩
- તાલુકા લાઇઝન અધિકારી દ્વારા તાલુકાના શિક્ષકોએ કરેલ નવતર પ્રયોગની હસ્તલિખિત પ્રતની ચકાસણી કરી
  ડાયેટ, વડોદરા દ્વારા આઇ.આઇ.એમ.-એ.ને જમા કરાવવામાં આવ્યા. જુલાઇ-૨૦૧૩
- વડોદરા જિલ્લાના અંદાજિત ૬૧૩ ઇનોવેશન (ઓનલાઇન તથા હસ્તલિખિત) સબમિટ કરાવી શક્યા હતા.
  (જુલાઇ ૨૦૧૩ સુધીમાં)
- ડાયેટ કક્ષાએ વિવિધ તાલીમ કાર્યક્રમોમાં બી.આર.સી., સી.આર.સી. કો-ઓર્ડિનેટર્સ તથા શિક્ષકો સાથે ડિસ્કશન ફોરમ અંગેની સમજૂતી તથા ચર્ચા. - નવેમ્બર-ડિસેમ્બર-૨૦૧૩

#### આગામી આયોજનઃ

- જિલ્લામાં નવતર પ્રયોગો કરનાર શિક્ષકો સાથે શેરીંગ વર્કશોપ.
- જિલ્લાના નવતર પ્રયોગોનું સંકલન બુકલેટ સ્વરૂપે કરી વિતરીત કરવું.
- ડિસ્કશન ફોરમમાં વધુને વધુ શિક્ષકો તથા શિક્ષણપ્રેમીઓ જોડાય તે માટે પ્રચાર, પ્રસાર તથા પ્રેરણા પૂરી પાડવી.
- આગામી સમયમાં શિક્ષકો દ્વારા કરેલ ઇનોવેટીવ પ્રેકટીસીઝને ઓળખી તેને પ્લેટફોર્મ પૂરું પાડવું.

### એક વિચાર....નેક વિચાર...બાળકો માટે...વિકાસ માટે...

એક સારો શિક્ષક. એક સંશોધક અને પ્રેરક હોય છે. બાળકોમાં ભિન્નતા હોય છે. આ નોખા બાલદેવો માટે એક જ પ્રક્રિયા શક્ય નથી. આ માટે નવતર પ્રયોગો કરવાજ પડે. આવા નવતર પ્રયોગો થકી જ શિક્ષણ પ્રક્રિયા રસપ્રદ અને બાળભોગ્ય બને છે.

શિક્ષણ દરમિયાન જ્યાં સમસ્યા છે, ત્યાં નાવાચાર માટે અવકાશ છે, સંભાવનાઓ છે, સગવડના અભાવે,પડકાર ધરાવતી પરિસ્થિતિ માં કામ કરી પરિણામ પ્રાપ્ત કરવું એટલે નાવાચાર. આઇઆઇએમ અમદાવાદ, જીસીઈઆરટી અને ગુજરાત એજ્યુકેશનલ ઇનોવેશન કમિશન ધ્વારા આવા શિક્ષકોની શોધનું કામ ચાલુ છે.આ પ્રક્રિયાને બહોળો પ્રતિસાદ પણ મળ્યો છે.

રાજ્યના તમામ જીલ્લા શિક્ષણ અને તાલીમ ભવનના 'જીલ્લા ઇનોવેશન સેલ (DIC)' થકી વિવિધ જીલ્લાઓમાં નવતર અને અભિનવ કામ કરતાં શિક્ષકો સુધી પહોંચી શકાયું. આવા શિક્ષકોને પ્રોત્સાહિત કરવા બેઠકોનું આયોજન થયું. કેટલાંક જિલ્લાઓમાં નવતર શિક્ષકોને પસંદગી કરી તેમણે આ પ્રક્રિયામાં જોડવા માટે ખાસ માર્ગદર્શન મળી રહે તેવા પ્રયત્નો ડાયટ ધ્વારા કરવામાં આવ્યાં. આવા પ્રયત્નને લીધે હજારો શિક્ષકોએ પોતાના કાર્યને આ પ્લેટફોર્મ સુધી પહોંચાડ્યું અને હજુ પણ પહોંચાડી રહ્યા છે.

નવતર અભિગમ અને કાર્યપ્રલાણીને આધારે શિક્ષકોણી પસંદગીની તબક્કાવાર અને ચીવટ સાથેની પ્રક્રિયામાં સભ્ય તરીકે જોડાવવાનો અનેક અનોખો અનુભવ પ્રાપ્ત થયો. અનેક શિક્ષકોએ જાણે સામાન્ય લાગતી પ્રક્રિયાને જ નવી રીતે રજુ કરી અને ચોક્કસ પરિણામ પ્રાપ્ત કર્યા.

રાજ્યના અનેક આવા અભિનવ કાર્ય કરતાં શિક્ષકો અને તેમના કાર્યોનું મૂલ્યાંકન કરતી વખતે પસંદગી સમિતિના સભ્ય તરીકે ખૂબ જ જોવાનું, જણાવાનું અને શીખવાનું મળ્યું. શિક્ષણનાં ક્ષેત્રમાં ઘણીવાર સંભાળવા મળે છે કે સમૃદ્ધ સમાજના નિર્માણ માટે સમૃદ્ધ નવીનીકરણ મહત્વનું બની રહે છે. 'શિક્ષક કાયમ શીખતો રહે છે'.આ વિધાનને નાવાયાર કરનાર શિક્ષકોએ સિદ્ધ કર્યું છે. પોતાની ફરજ અને કાર્ય પ્રત્યે સભાન અને શાળા પરિવાર સાથે જોડાયેલ જાગૃત શિક્ષકો સાબિત કર્યું છે કે શિક્ષણ માત્ર વર્ગખંડમા જ નઢિ વર્ગની બહાર કે અન્ય રીતે પણ શક્ય છે.

"શૈક્ષણિક નવીનીકરણ આયોગ"ની સ્થાપના કરનાર ગુજરાત દેશનું પ્રથમ રાજ્ય છે. આ ગૌરવ સાથે નવતર પ્રયોગ કરનાર શિક્ષકો અંગેની ટૂંકી છતાં વિસ્તૃત અને સયોટ માહિતી આ પુસ્તિકામાં આપવામાં આવી છે. ગુજરાતના ખૂણે ખૂણે ધૂણી ધખાવીને કામ કરતાં અનેક શિક્ષકોને અહીં સમાવવામાં આવ્યાં છે. કન્યા કેળવણી, ભાષા, ગણિત, વિજ્ઞાન અને ટેકનોલોજી, બાળકોનો સર્વાંગી વિકાસ, ઉપરાંત શાળા અને સમાજને સાથે જોડાવાના અને તેના માધ્યમથી ગુણવત્તાલક્ષી કામ કરનાર અનેક છે. અનેક પરિણામ લક્ષી સિદ્ધિઓ પ્રાપ્ત કરનાર શિક્ષકોની વિગતોનો અહીં સમાવેશ કરવામાં આવેલ છે. આ શિક્ષકોએ શિક્ષણની એક જ ધરેડ, વિવિધ બંધનો અને ચોક્કસ પ્રકારની નિષ્ક્રિયતાને દૂર રવામાં સફળતા મેળવી છે. આ વિગતો વાંચી આવા અભિનવ શિક્ષકો માટે ગૌરવ લઇ શકાય તેમ છે.

નવતર કાર્ય કરી પસંદ પામનાર આ શિક્ષકોને શિક્ષણ કાર્યમાં પડેલી મુશ્કેલી અને તેની સામે કરેલ કશુંક નવું,નવતર અને અભિનવ કાર્ય એક અનોખો માર્ગ દર્શાવે છે.અહીં પસંદ થયેલ નવતર શિક્ષકો અને તેમના કર્યો અનેક શિક્ષકોને પણ ઉપયોગી થશે. હજુ પણ ગુજરાતમાં એવા અનેક શિક્ષકો છે જે પોતાની રીતે જ શાળા,શિક્ષણની પ્રક્રિયા કે યોક્કસ સમસ્યા સામે સતત કાર્ય કરતા રહે છે. આવનારા દિવસોમાં દરેક ખૂણે આ રીતે મૂક કાર્યરત શિક્ષકો સુધી પહોંચવાનું અને તેમના નવતર પ્રયોગોને ઓળખી અને દસ્તાવેજીકરણ કરવાનું આયોજન છે.

ભારતના ભાવિના સાચા પ્રેરક બનાવવાની આ પ્રક્રિયામાં જોડાયેલ સૌનું સ્મરણ કરી પુસ્તિકાના પ્રકાશન સમયે શિક્ષણના ઉજવળ ભવિષ્યની શુભેચ્છા સાથે 'જય ગરવી ગુજરાત.'

> ભાવેશ પંડ્યા કોર કમિટિ સદસ્ય આઈ.આઈ.એમ. અમદાવાદ

#### પરંપરાથી અપરંપાર

INNOVATION શબ્દથી મને 'DIVERGENT THINKING' એવો અર્થ અભિપ્રેત છે. અર્થાત "નવીનીકરણ એટલે ફંટાચેલા વિચારો." આવો વિચારવ્યાયામ ગમે તે ક્ષેત્રમાં હોઈ શકે.આપણા ધર્મપુરૂષો, સમાજપુરૂષો કે વિજ્ઞાનપુરૂષોને પોતપોતાના વિચાર–કાર્યક્ષેત્રના INNOVATORS કહેવામાં જરા પણ અતિશયોક્તિ નથી. આપણા સામાજિક-સાંસ્કૃતિક રીતિ–રીવાજોનાં પ્રચલનની પાછળ વ્યાપક જનસમૂઠના કલ્યાણનો હેતુ ગર્ભિત હતો અને રીતિ–રીવાજોનું પ્રચલન આવા જ કોઈક સામાજિક-સાંસ્કૃતિક INNOVATORS ની દેન છે. " ઇચ્છિત લક્ષ્યો સુધી પહોંચવા માટે ઓછામાં ઓછા સમય-શક્તિ-નાણાનો ઉપયોગ અને ગંતવ્ય લક્ષ્ય સુધીની આનંદદાયક યાત્રા" આટલી શરતોનું પાલન થાય તો INNOVATION ઉત્કૃષ્ઠતા પ્રાપ્ત કરે.

INNOVATION શબ્દની વ્યાપક સમજ બાદ શૈક્ષણિક ક્ષેત્રમાં તેની જરૂરિયાત અને તેની શક્યતાઓના સંદર્ભે વિચાર કરીએ. કોઈપણ ક્ષેત્રમાં INNOVATION ની ઘટના ક્યારે આકાર લે છે તેવો પ્રશ્ન પુછાય ત્યારે પેલી અંગ્રેજી કહેવત આપણી વહારે ચડે છે કે "NECESSITY IS MOTHER OF INVENTION." આપણી જરૂરિયાતો આપણી સર્જનાત્મકતાનું બહાનું બની જાય છે. ગરમ જમીન પર પગ પડે તો જ જોડાંની જરૂરિયાત જણાય. પણ જોડાંની જરૂરિયાત જણાય તેના માટે પગમાં સંવેદના લીલીછમ હોવી પડે. એક સંવેદનશીલ ચેતનાવાળો શિક્ષક જ્યારે શાળામાં હોય ત્યારે તો આખે આખો શાળામા જ હોય પણ શાળામાં ન હોય ત્યારે પણ શાળામાં હોય તો જ આ શિક્ષક શાળાની સમસ્યાઓ સમજી શકે અને આ સમસ્યાજનક પડકાર જ તેને ફંટાયેલા માર્ગે વાળે છે. મને જ્યારે મારી શાળામાં આવતા થાય છે.

ભારત જેવા વિશાળ અને બઠુવિધ સામાજિક-સાંસ્કૃતિક-આર્થિક પરિવેશ ધરાવતાં દેશમાં શિક્ષણનીતિ ધડનારા અને નીતિનો અમલ કરનારાઓની વચ્ચેનું અંતર મોટું હોય ત્યારે સ્થાનિક પર્યાવરણને ધ્યાનમાં રાખીને સ્થાનિક સમસ્યાઓનું નિદાન અને નિરાકરણ ખુબ જ અગત્યનું પરિબળ બની રઠે છે. શિક્ષક જ્યાં છે ત્યાં, જે પરિસ્થિતિમાં છે તે પરિસ્થિતિમાં આજુબાજુના માનવસંસાધન અને ભૌતિકસંસાધનનો ઉચિત ઉપયોગ કરીને નાવીન્યપૂર્ણ કામ કરે ત્યારે તે સંજોગોનો શિકાર બનવાને બદલે સંજોગો ઉપર સવાર થઇ જાય છે. કોઈ નાનું બાળક વેર વિખેર ટપકાંઓને જોડીને જેમ સુંદર આકૃતિ તૈયાર કરે તેમ ઉત્તમ શિક્ષકે આજુબાજુમાં રઠેલ વિવિધ સંસાધનોને જોડીને નાવીન્યપૂર્ણ શૈક્ષણિક વાતાવરણ નું નિર્માણ કરવાનું હોય છે.

આ ટપકાંઓ જોડવાની કલાત્મક સૂઝ દરેક શિક્ષકમાં સમાન હોતી નથી અને દરેક શાળાઓની સમસ્યાઓ સમાન હોતી નથી. આવા સંજોગોમાં કોઈ એક શાળામાં થયેલું INNOVATION એના એજ સ્વરૂપે અન્ય શાળામાં લાગુ ન કરી શકાય એવું બને. આવું બને ત્યારે શિક્ષક તેની સજ્જતા પ્રમાણે તેમાં થોડો ફેરફાર કરી શકે. INNOVATION નું RENOVATION થાય તે પણ બદલાતાં સમય અને સ્થળ ની માંગ હોય છે. પરંપરાના પાયામાં રહેલાં વિચારના પથ્થરો ખસી જાય ત્યારે શિક્ષણ ઈમારત જર્જરીત બની જાય છે. એટલે કોઈપણ INNOVATION નાં માધ્યમથી ઉભી થતી કાર્યપ્રણાલીનાં પાચામાં વિચાર અગત્યની ભૂમિકામાં રહેલો છે. વિચાર પાણી જેવો હોય છે અને પરંપરા પાણા જેવી હોય છે. જેમ પાણીની મુક્રી ભરવી સરળ નથી તેમ વિચારને પકડવો દરેક વ્યક્તિ માટે સરળ નથી હોતો ત્યારે તેઓ પરંપરાના પાણાની પૂજા કરતા થઇ જાય છે. પરંપરાના પરિધ માંથી બહાર નીકળવાવાળો શિક્ષક અપરંપારનો પ્રતિનિધિ બની શકે છે. દરેક શિક્ષકે પોતાની સ્થાનિક પરિસ્થિતિનો અભ્યાસ કરીને INNOVATION કરવાની સજ્જતા કેળવવાની જરૂંર છે. પરંપરામાંથી વાસીપણા ની ગંધ આવે છે અને એટલે જ 'INNOVATIVE MIND' નું સર્જન કરવું એ આપણો મુખ્ય ઉદ્દેશ હોવો ઘટે.

"સોટી વાગે ચમચમ ને વિદ્યા આવે રમઝમ" એ કહેવતને ગુજરાતી ભાષામાંથી ભૂંસી નાખવાનું કામ કેટ કેટલાં શિક્ષકો, કેવા કેવા અંતરિયાળ વિસ્તારોમાં રહીને કરી રહ્યાં છે તેનાં સાક્ષી બનવાનું સદભાગ્ય મને પ્રાપ્ત થયું છે. શિક્ષણનાં બદલાતા પ્રવાહ્યે અને બદલાતી માન્યતાઓનાં સમયમાં વિમાસણમાં મુકાતાં શિક્ષકો માટે અહીં આપેલાં નવિનીકરણો વિસામારૂપ બની રહેશે જેની ખાતરી મને ઘણાં શિક્ષકો સાથેના ભાવ-પ્રતિભાવ દ્વારા થઇ છે. આઈ.આઈ.એમ.અમદાવાદ, જી.સી.ઈ.આર.ટી.ગાંધીનગર અને જી.આઈ.ઈ.સી.નાં મજિયારા મંથનનો પડધો પાડતી આ ઘટના ગુજરાતનાં શિક્ષણને નવી દિશા અને નવી દશા તરફ ડગ મંડાવશે.

> દિનેશ પ્રજાપતિ આચાર્થ શ્રી હ્રાંસલપુર (બેચ.)પ્રા.શાળા તા-માંડલ, જિ-અમદાવાદ કોર ટીમ મેમ્બર IIM.

# "Educational Innovations Bank"

# Teacher-inspired innovations and quality improvement

Can improving the health of adolescent girls improve their educational outcomes? Can giving a 'mobile' library, a set of graded books, to children for reading at home improve reading skills? Is there a way of involving the School Management Committee in tracking academic progress of the village's children? The answers are yes. Teachers in remote corners of the state are raising such questions, answering them, and showing that quality, defined in whatever manner, can be improved. Innovations are of no use if they do not have positive impact.Identifying such teachers who have experimented with positive results, sharing their work, and building a platform around such innovations for developing other teachers is the aim of the Educational Innovations Bank (EI Bank). Since its inception in early 2013, about 5500 innovations have been identified. A preliminary evaluation of the most promising 100 innovations has been completed. The validation of the entire set is now in progress.

These innovations are solutions to specific educational problems that the teachers have faced. If shared and discussed, they can inspire other teachers to solve their own problems, thus raising the quality of education. The DIETs of Gujarat are playing a leading role in this movement. Every DIET now has a DIET Innovation Cell, with one lecturer acting as a nodal point for the activity.

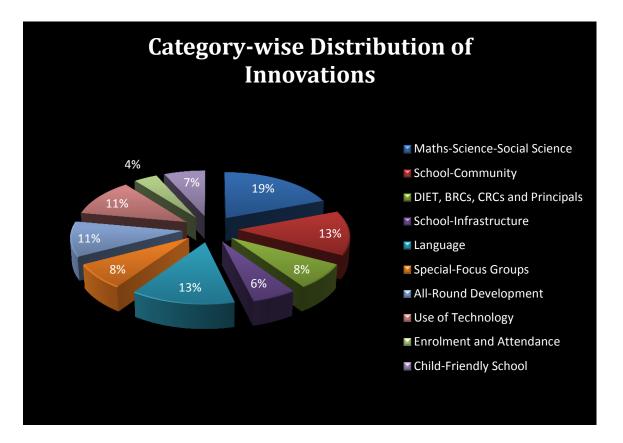
To identify innovative teachers, a multi-pronged approached was followed. At the DIET level, various writing workshops were organized where teachers identified by the DIETs, BRCs and CRCs were invited. In these workshops, the teachers were guided to write about innovations implemented by them, in a pre-defined format. Further, follow-up field visits were conducted for innovations identified through the writing workshop. Extensive field visits were also done to scout for innovations not covered through the writing workshop.A process for submitting innovations online was also put into place and modules on how to do so were made available to DIETs, BRCs, CRCs as well as the teachers.

Certain challenges were identified in the process of submission, identification and documentation of innovations. In terms of submission, online entries were found to be fewer than physical entries due to connectivity issues and relatively low technical competencies of teachers. While a large number of innovations have been submitted, a great number of innovative teachers have still not been reached out to and remain to be identified. An Online Discussion Forum was started to encourage peer-based learning amongst teachers. On this Forum, cases of teachers were put up for discussion to add value to the existing innovation as well as to help teachers think about ways to implement these innovations in their schools. The Discussion Forum received more some participation, in that, various teachers visited the Forum. How teachers can add more value through their comments is an issue that will be taken up soon. This is a new method of teacher development, and so more time is needed for the teachers to get used to it.

This year, the gender distribution of identified innovative teachers was skewed in favour of the male teachers (76%). We believe that this is problem with the reaching out to teachers. We are sure there are many

innovative female teachers still to be identified. Increasing participation of female teachers will be one of the objectives of the project for next year.

There is a fairly even distribution of innovations across categories. However, the subject-based innovations make up close to one-third of the total innovations, which is an encouraging sign. School-Community Relations make up 13% of the innovations, indicating the importance of maintaining a strong relationship with the community in order to improve learning outcomes. There is an emerging trend of using technology to enhance the learning experience of students and this is evidenced by the fact that 11% of the total innovations are around the use of technology in the classroom. Another heartening fact is the attention given to Special Focus Groups (Girls and Disabled) by the innovative teachers. These innovations constitute close to 10% of the total innovations.



Extensive field-work has been planned to gather additional information on already submitted innovations as well for scouting for new innovations. The aim of the project is also to provide decentralized training to teachers and to this end, district level discussion forums will be activated for teachers to discuss problems and solutions that are relevant to their context. Lastly, selected cases identified through this year's process will be compiled into a book, which can serve as supplementary instructional material in teacher training colleges and can also be integrated into the in-service trainings conducted by the DIET. The identified innovative teachers will serve as mentors for other teachers in terms of guiding them to create and implement innovative methodologies to solve different problems and to arrive at solutions that have a positive impact on the learning outcomes of the students.



# Language

### Increased access to reading material: creation of reading corner and portable library

#### Innovation developed by: Priti Gandhi

To enhance reading skills of students, **increase** access to reading materials by giving students multiple opportunities to read books in school as well as at home.

#### **Reading Corner**

- 1. Divide books in the school according to levels; procure more books, if required.
- 2. Organize students according to reading level.
- 3. Identify a space in school that can be used a reading corner.
- 4. Decorate the space by colouring the walls and putting up posters; involve the students in the decoration.
- 5. Organize books according to level and keep them in the reading corner for students to pick up freely.
- 6. Engage volunteers from within the community or the SMC members to help the weaker students in reading.
- 7. Track student progress through reading tests.



A portable library that students can take home

#### Little library at home

- 1. Create a list of books across different levels and genres. These can consist of picture stories, small novels, dictionary, magazines etc.
- Mobilise resources to procure these books. (These will be in addition to the books already procured for the reading corner.)
- **3.** Divide books into sets of 25, consisting of different levels and genres.
- **4.** Procure small aluminium boxes that can house upto 25 books.
- **5.** Keep a set of 25 books in each aluminium box.
- **6.** Number the aluminium boxes and stick a page with the list of books on the inside of the box.
- 7. Develop a rotation system whereby each time, a different set of students get to take aluminium boxes home for a period of one month. (In the beginning, ensure that each student gets a box at least every two/three months. Once more books and boxes are mobilised, each student should be given a different box of books every month.)
- 8. Encourage students to write about any 3 books they read in the month.
- 9. Organize story-telling opportunities for students in the prayer assembly for them to talk about their favourite stories.

Having access to books at home improves literacy skills through increased exposure to different forms of reading material. Interest of family members in reading also increases, leading to consistency between the school and home environment. The teacher should test the speed of reading and aim for about 80 to 90 words per minute with 90%+ accuracy.

### Linking learning to everyday experiences: Improving English vocabulary of students

#### Innovation developed by: Nikunjkumar Vyas

To improve vocabulary and communication skills of students, **link learning to their everyday experiences through using words given on wrappers of different products.** 

- 1. Teach words related to mobile phone functions: *message, missed call, caller* etc.
- 2. Teach words related to the computer: *monitor*, *process, internet* etc.
- 3. Teach words related to daily life: *station, shop, garden* etc.
- 4. Tell students to get wrappers of different products to class, such as
  - Cadbury chocolate
  - Balaji wafers
  - Colgate toothpaste
  - Soaps
  - Noodles
- 5. Help students identify different words on the wrapper.
- 6. Guide students in preparing a list of words on the wrappers.
- 7. Demonstrate how to find the meaning of the words using a dictionary.
- 8. Give students practice on finding meanings from the dictionary.
- 9. Teach students to create sentences using the words.
- 10. Give guidance on how to remember and use the words.
- 11. Evaluate students based on written tests and presentations.

Enabling students to learn from everyday experiences and items will expand learning beyond the classroom and facilitate the process of independent learning. The use of wrappers of products that have reached even the more remote villages directly ties up the learning with everyday experiences of the child.



Use of wrappers to improve vocabulary

"The classroom needs to provide a print-rich environment, displaying signs, charts, workorganizing notices etc., that promote 'iconic' recognition of the written symbols, in addition to teaching lettersound correspondences."-NCF Setting poems of English, Gujarati, Hindi and Sanskrit of Classes 6, 7 & 8 to Melodious *Ragas* 

#### Innovation developed by: Taslima Sheikh

To help students enjoy poems as well as to improve their sense of music, **set poems to tunes of various** *ragas* and teach students to sing the poems in the *ragas* that they have been set to.

Steps followed by the teacher:

- 1. Conversion of poems of English, Gujarati, Hindi and Sanskrit into songs. The songs were set to the tune of various *ragas*.
- **2.** Teacher showed the students how to sing the poems in particular *ragas.*
- 3. Students given practice on how to sing poems using the *ragas*.
- 4. Video-recording of poems sung by teacher and students.
- 5. YouTube channel created by teacher.
- 6. Videos of the songs uploaded on the YouTube channel by the teacher.
- 7. Songs shared with other teachers through the YouTube channel.

Using the internet as a tool to share resources expands impact beyond one classroom and offers teachers opportunities to collaborate as well as get feedback.





Chatak chatak

Songs created and shared by teacher on YouTube

"Providing children more direct access to multimedia equipment and **Information Communication** Technology (ICT), and allowing them to mix and make their own productions and to present their own experiences, could provide them with new opportunities to explore their own creative imagination. "- NCF

**Teachers as Transformers: Innovations from Gujarat's State Schools** 

### Activity-based learning: Use of Dramas to learn Sanskrit

#### Innovation developed by: Krupa Anilkumar Bhavsaar

To enable students to gain confidence as well as understand Sanskrit in its true context, **guide them to learn through enactment of dialogues given in the chapters.** 

- 1. After explaining the chapter, allocate different dialogues from the chapter to each student.
- 2. Ask students to prepare these dialogues for a drama on the chapter the next day.
- 3. Create paper masks for different characters and hand them to the students playing these characters.
- 4. Guide students to enact the dialogues in the chapter through a drama.
- 5. Explain the chapter through the dialogues enacted by the students.

Role-playing and dialogue delivery help students develop their communication skills, sense of creativity and inter-personal skills.



Use of dramas for learning

# Activity-based learning: Use of dramas as a mode of teaching

#### Innovation developed by: Pushpa Manvar

To develop confidence amongst students and an ability to demonstrate their learnings, **facilitate the enactment of dramas as a mode of learning language content.** 

- In the context of Project *Pragna* and application-based learning, teach chapters to grade 3 and 4 students with the use of dramas
- 2. Prepare a list of characters based on the chapter.
- 3. Allocate these characters to different students.
- 4. Allocate corresponding dialogues to the students.
- 5. Give students time to prepare and practice the dialogues.
- 6. Arrange for the necessary costumes.
- 7. Have students enact the drama in front of the class.
- 8. Explain the chapter through a discussion of the drama with the students.

Enactment of dramas based on chapters develops a form of comprehension, which is a higher-level skill than just retaining knowledge and writing it on tests. Dramas also provide opportunities to students to work in teams, which builds up their collaborative skills.



Use of dramas to make learning fun

# Revitalization of the school library through increasing student involvement

#### Innovation developed by: Zarna Doshi

To create a culture of reading in the school, **link** reading to different extra-curricular activities in the school and give projects that involve the use of resources from the library.

- 1. Explain the importance of reading to students and expose them to different reading materials such as newspapers, short stories, comics, novels etc.
- 2. Use the books from the library to tell important facts to the students in the prayer assembly.
- **3.** After a while, hand responsibility to the students to continue this activity. Give guidance about the books, magazines and newspapers to use for picking up relevant information.
- **4.** Guide the students to separate the science and math books in the library to create a Science-Math library.
- **5.** Select a group of 8<sup>th</sup> grade students and hand management of the library to them.
- 6. Link extra-curricular activities to the library.
- **7.** Tell students about different details of a book such as the author, index and also how to write a summary after reading the book.
- **8.** Organize an exhibition of Science and Maths books in each class.
- **9.** Ask students to prepare a list of their top 10 books in their notebook.
- **10.** As a project, ask students to prepare a basic book review on a book of their choice.
  - Tell students to prepare a first draft and give feedback on it.
  - Guide students to make the final version after incorporating this feedback.
- 11. Give students another project to collate information on different animals and living things.

Giving students projects such as writing book reviews builds up their ability to synthesize information, which is the second-highest skill on the Bloom's taxonomy.

Discovery-based learning: Use of dictionaries by students to find out meanings of difficult words in English

#### Innovation developed by: Mouli Dave

#### To improve student vocabulary in English, **teach them to use a dictionary to find out the meanings through group and independent work.**

- 1. Enable student-led learning to find out meanings of difficult words.
- Get dictionaries for students of grades 5-8.
  Provide a Gujarati dictionary, multi-language dictionary and an English dictionary.
- Teach students about the layout of the dictionary and the steps to be followed in finding a word from the dictionary
- 4. Divide students into groups to find out meanings of given words
- 5. Guide students to learn the English words of everyday usage with the help of the dictionary.
- 6. Evaluate students through projects, oral vocabulary tests, written tests and on English speaking.

Student-led and discovery-based learning leads to better retention of content as well as development of application skills.

#### **Teachers as Transformers: Innovations from Gujarat's State Schools**

### Improving Reading Skills through Teacher, Peer and Self-driven Groups

#### Innovation developed by: Niteshkumar Chauhan

To improve reading skills of a class with different learning levels, **conduct assessments to categorize students according to levels and then divide them into different learning groups.** 

- 1. Fix parameters to categorize children into different reading levels. Use these parameters:
  - Reading
  - Dictation
  - Transcription
  - Independent writing
- 2. Conduct a reading and writing assessment of all students in class to find their levels.
- 3. Based on the assessment, categorize students into different levels:

Number of	Good	Medium	Poor	Cannot
students				do at all
Reading				
Dictation				
Transcription				
Independent				
writing				

- 4. Divide students into three major categories:
  - i) Teacher-led group (Teacher to guide group in learning)
  - ii) Peer Learning group (Group members to help each other learn)
  - iii) Independent group (Children will learn on their own)

5. Within each learning group, categorize students further using

	Can	Can	Can	Can't do
	read	write	transcript	anything
Alphabets				
Words				
Simple				
sentences				
Sentences				
with				
complex				
words				
Simple				
paragraphs				
Paragraphs				

- 6. Evaluate children regularly based on the given parameters.
- 7. Based on progress, shift children to other groups.

### Differentiated instruction, based on learning levels, is crucial in catering to student needs and in improving learning outcomes.



Differentiated teaching to improve reading

# Improving language skill and number sense through fun-based learning

#### Innovation developed by: Kokilaben Patel

To improve language skill and number sense of students, **narrate stories around each alphabet and number**.

- **1.** For teaching each alphabets and numbers, use stories and narrate them using hand gestures.
- **2.** For teaching the number 0, show gestures to indicate the making of a ladoo.
- **3.** For teaching the letter 'લ', tell students a story about peeling લસણ (garlic).
- **4.** Evaluate students through dictation of letters.

Developing strong number sense and an understanding of alphabets builds up a base for students to acquire skills in higher grades.

> "Meaningful *learning is a* generative process of representation and manipulating concrete things and mental representations, rather than storage and retrieval of information. Thinking, language (verbal or sign) and doing things are thus intimately inter-twined."- NCF

# Structured approach to developing reading skills in students

#### Innovation developed by: Dhanuben Maganlal Patel

To develop reading skills in students, **use preassessments at the beginning of the year to find their actual reading level and then teach them at that level.** 

- 1. Assess grade 3 students on reading based on grade 2 text.
- 2. Categorize students into different levels based on the reading assessment.
- 3. For the weakest students, start with alphabets recognition, and then move on to its reading and writing.
- 4. Give students practice on reading the simple words.
- 5. Make use of TLMs such as word-chart and sentence chart to enable students to read.
- 6. Evaluate student progress through reading assessments on an on-going basis.

Teaching students at their level caters to their actual learning needs and helps them develop the necessary skills in a more effective manner. Use of Teaching and Learning Materials enhances the learning experience for the students and aids in their cognitive development.



**Teaching reading based on levels** 

# Visual cues to increase alphabet recognition

#### Innovation developed by: Raghu B. Vasoya

To increase alphabet recognition amongst students, allocate alphabet cards to students to wear around their neck.

- 1. Create alphabet cards for each alphabet.
- 2. On the floor, create large circles and write alphabets inside them.
- 3. Attach the card to a long string and give one card to each student to wear around their neck.
- 4. Guide the students to sit next to the alphabet allocated to them.
- 5. Each day, give the students a different card to wear around their neck.

Use of visual cues enables increased understanding of the shapes of the alphabets and enhances students' ability to recognize them. Alphabet recognition is a crucial skill in developing an understanding of the language being learnt.



Use of visual cues to increase alphabet recognition

# Teaching Gujarati through the local language

#### Innovation developed by: Ramesh Roshiya

# Enable students to learn the language of instruction through use of the local language.

- 1. Interact with students, parents and other people in the community to find out words of everyday usage in the local language.
- 2. Create a dictionary of local words used in everyday life, along with their Gujarati meanings.
- 3. Train teachers to use the dictionary to guide their teaching.
- 4. Offer opportunities to the students to communicate in their local language in the classroom.

### Improving student vocabulary, reading and writing skills

#### Innovation developed by: Deviyani Trivedi

To improve students' vocabulary, reading and writing skills, **compile a dictionary containing simple 2,3 and 4 letter words.** 

- 1. Compile a list of simple, most frequently used two, three and four letter words. Use the internet and reference books as guides for compiling the words.
- 2. Prepare a dictionary with the selected words
- 3. Guide the students on how to use the dictionary
- 4. Give the dictionary to each student
- 5. Use the dictionary as a tool to improve students reading and writing
- 6. Evaluate students through reading tests, oral tests on vocabulary and through writing tests



# Mathematics, Science and Social-Science

### Leaner-centred methodology: Differentiated instruction to improve math fundamentals

#### Innovation developed by: Yogeshkumar Rawal

To enable students to develop strong numerical abilities and fundamentals without loss in instructional time, **give students opportunities for differentiated practice during non-classroom hours.** 

- 1. Write simple multiplication and division problems on the board.
- 2. Keep a maths box in class.
- **3.** Students have to solve these problems in their free time and deposit the answers into the maths box whenever they finish.
- 4. Check the submitted answers and guide students who are still making errors.
- 5. As proficiency increases, give students tougher sums.

Differentiated instruction is a learner-centred methodology that enables students to learn at their own pace. While different students progress at different speeds, the difficulty levels of the problems increase in steps since the entire group of students has to solve the same problems.



Maths box for submission of answers

### Application-based learning: Actual measurement of water tanks to learn about volume

#### Innovation developed by: Laxman Bareya

To enable application and discovery-based learning, guide students in practically calculating the volume and capacity of water tanks

- 1. Explain the concept of volume theoretically and with examples.
- 2. Divide the students into groups.
- 3. Make the academically stronger students group leaders.
- 4. Take the students to the water tank in school.
- 5. Guide the group leaders in measuring the dimensions of the water tank to calculate the volume; other students to observe.
- 6. Give clear instructions to group members regarding safety and measurement of dimensions.
- 7. Allocate streets to groups.
- 8. Students to measure dimensions and to calculate volume of water tanks in the houses on the allocated street.

Working in groups enables students to learn the crucial 21<sup>st</sup> century skill of collaboration. Application-based learning also helps students to develop higher-order thinking.

> "Mathematics should teach children a way of doing things, and the ability and attitude to formulate and solve problems."- NCF

### Developing conceptual understanding: Activity to learn positive and negative numbers

#### Innovation developed by: Kalpesh Chotaliya

To develop an intuitive understanding of the number line amongst students, **make them learn it through standing and moving on a physical number line**.

- 1. Draw a number line in the lobby.
- 2. Ensure that the appropriate signs indicating positive and negative numbers are written on the line.
- 3. Explain the concept of negative and positive numbers.
- 4. Teach students about the addition of these numbers.
- 5. Make students practice by standing on the number line and moving in the right direction to get the answer.
- 6. Ensure that each student gets an opportunity to practice by moving on the number line.

Learning through activities helps make abstract mathematical concepts more concrete in the students' minds and also works towards reducing their phobia for the subject.



A physical number line that students can move on

Innovation developed by: Ganpatram Maganlal <u>Trivedi</u>

To enable students to learn Mathematical concepts as well to develop analytical skills, **provide opportunities to students for peer-checking.** 

- 1. Prepare monthly plans for topics to be covered in Maths.
- 2. Every 15 days, take a test for the students.
- 3. Tell students to distribute the answer sheets amongst themselves.
- 4. Check the answer sheets of a few students.
- 5. Distribute the corrected answer sheets amongst students for use as exemplars for checking.
- 6. Walk around class and clarify any doubts that students might have.
- 7. Review the answer sheets of all the students.
- 8. Discuss and explain the answers in class.
- 9. Give students time to correct their answers.

Peer checking develops students' evaluation skills, which is highest on Bloom's taxonomy. Providing instant feedback on tests to students enables them to understand their mistakes and take corrective measures immediately.

> "Children should see mathematics as something to talk about, to communicate through, to discuss among themselves, to work together on. "- NCF

### Developing spirit of enquiry: Guiding students to source materials for experiments locally

#### Innovation developed by: Prahlad Gajjar

To develop problem-solving skills and collaboration amongst children, along with an understanding of scientific concepts, **guide students to conduct experiments on their own**.

- 1. Prepare a list of experiments, based on textbooks and reference books.
- 2. Prepare an experiment-wise list of equipments required.
- 3. Divide students into different groups.
- 4. Appoint a group leader for each group.
- 5. Give the groups the list of equipments required per experiment.
- 6. Guide the groups in identifying and collecting the equipment from the local environment as well as in creating equipment on their own; guide whenever required.
- 7. Act as facilitator of the activity and give guidance wherever required.
- 8. Evaluate through giving projects, group discussions and tests.

This method can be extended to cover:

- Group projects for social science where students can use local materials to create models.
- To teach about bio-diversity by making children collect local plant resources and working with them.
- Student bodies, which can take the responsibility to manage different activities in school

This method shifts learning from being teacher-centred to learner-centred and follows the principle of constructivism, which allows students the opportunity to construct knowledge themselves.

# Application-based learning of water pollution

#### Innovation developed by : Chiragi Panchal

Enable students to understand water pollution by involving them in a project to build an eco-friendly statue.

- 1. Inform students about water pollution caused due to the disposal of Plaster of Paris statues during *Ganesh Chaturti.*
- **2.** Discuss a plan with students to build an ecofriendly statue of Ganpati.
- 3. Tell students to gather waste paper.
- 4. Soak around 2Kgs of waste paper in water to prepare its pulp.
- 5. Put roasted *chachuka* powder.
- 6. Add the required colours to the created statue.

Through such practical projects, students learn about measures to conserve the environment, along with picking up problem-solving and application-based skills

> "The development of science corners and providing access to science experimentation kits and laboratories, in rural areas are also important ways of equitably provisioning for science learning. "-NCF

### **Experiential learning in Science**

#### Innovation developed by: Mahesh Parmar

To enable experiential and application-based learning in Science, set up a Science Lab in school and give students opportunities to conduct experiments on their own.

- Prepare a detailed list of experiments to be done by children throughout the year, based on the textbooks and other reference materials. Work with teachers in the school, other schools as well as NGOs in the education space to prepare this list.
- **2.** Prepare a list of equipments required based on the experiments.
- 3. Raise funds from different organizations and donors for purchasing the equipments.
- **4.** Select two students each from Grade 5, 6 and 7 as Science Assistants and involve them in the setting up of the Science Lab. Also give them the responsibility of upkeep of the lab and its equipments.
- 5. Demonstrate each scientific principle and concept through experiments in the Science Lab.
- 6. After demonstrating each experiment, guide students to conduct experiments on their own.
- Organize a science exhibition for students to demonstrate what they have learnt throughout the year. For this:
  - a) Select a group of students to be a part of the organizing team.
  - b) Guide the organizing team to brainstorm on different issues to be covered in the exhibition and to arrive at a theme.
  - c) Based on the theme, put up pictures, charts and posters of experiments and scientific concepts.
  - d) Invite parents and students from the organizing school as well as other schools for the exhibition.

e) Guide students to demonstrate and explain different experiments at the exhibition.

Learning through experiments helps students understand the application of science in real life. This leads to an increase in interest levels in the subject as well as a more conceptual understanding of the principles being taught.



Learning though experiments

### Application-based learning: Measurement of real-world objects

#### Innovation developed by: Reenaben Rajnikant Sukhadiya

To enable students to learn mathematical concepts in an effective manner, **use the application-based methodology for teaching measurement by giving students opportunities to apply the concepts they have been taught.** 

- Explain the concept of measurement and related concepts such as perimeter, area, width, length etc. through the use of examples in the book, charts and sums on the board.
- 2. During assembly and mid-day meal, make students recite the formulas of perimeters, radius, area etc.
- 3. To conduct activities for learning mathematical concepts, divide children into groups of 4.
- 4. Appoint the higher level students as group leaders.
- Teach children to measure area, perimeter of various shapes, on paper as well as in real life. For practice, guide students to measure the perimeter of the page of a paper, a match box etc.
- 6. Explain the various formulas through activities.
- 7. Make various shapes out of cardboard and thermocol.
- 8. Guide students to measure and calculate the area and perimeter of these shapes.
- **9.** Make a layout of different places such as school, houses of children etc.
- **10.** Guide students to calculate area, perimeter of rooms, bathrooms, and prayer-rooms based on the dimensions given in the layout.
- **11.** Let students apply their knowledge of measurement to:
  - Measure width and length of a Sari and then calculate the area and perimeter.
  - Measure width and length of a table.
  - Calculate area and perimeter of a farm

Application-based learning ensures effective retention of content knowledge as well as develops higher-order and problem-solving skills in the students.

### Practical knowledge of environmental friendly waste-disposal

#### Innovation developed by: Dharmeshkumar Shukkarbhai Patel

Give students practical exposure on waste-disposal by involving them in disposing of different types of waste into separate bins and pits.

- 1. Purchase seven dustbins.
- 2. Allocate three bins for putting plastic waste and other four for paper and disposable waste.
- 3. Put labels on each bin to indicate the type of waste to be put in.
- 4. Explain the importance of separating waste to students.
- **5.** Train students to dispose waste according to type, into the correct bin.
- **6.** Dig two pits in the school compound.
- 7. Allocate one pit for plastic waste and the other for disposable waste.
- 8. Guide students to dispose of waste accordingly into the two pits.
- 9. After three-four days, burn the plastic and disposable waste.
- 10. After a while, use the remains of the waste as compost for the school's garden.

Practical experience of environmental-friendly waste disposal is a crucial step in helping students internalise the process and value of proper waste-disposal, which is a step towards becoming better citizens.

# Teachers as Transformers: Innovations from Gujarat's State Schools

### Teaching and Learning Material to aid conceptual understanding of mathematics

#### Innovation developed by: Nileshkumar Solanki

To enable students to learn the concept of place value conceptually, **prepare a place value chart with different columns for place and space for writing digits.** 

 Create a Teaching and Learning Material for teaching Place Value. Use this format for preparing the TLM:
 Place Value Chart

Place value chart								
Thousands					Decimals			
Ten	Tho	Hun	Т	U	Те	Hun	Thou	
Tho	usa	dre	е	ni	nt	dred	sandt	
usa	nd	ds	n	ts	h	th	h	
nd			s					

- Explain the concept of place value theoretically and through examples on the board.
- 3. Then, show an example of place value by writing the separate digits in the Place Value Chart.
- 4. Divide students into groups and appoint higher-level students as group leaders.
- 5. Give the groups time to practice place value using the Place Value Chart.
- 6. Evaluate students based on oral questions, tests using the Place Value Chart and on tests without the use of the Place Value Chart.

Creation of Teaching and Learning Materials that students can use for peer-based and independent learning help in the process of learning through discovery and in developing a conceptual understanding of the subject.



**TLM to teach Place Value** 

"Having children develop a positive attitude towards, and a liking, for, Mathematics at the primary stage is more important, if not more than the cognitive skills and concepts that they acquire. "- NCF

## Science Camp organized at the Cluster Level

#### Innovation developed by: Vipul Mahendra Chauhan

To provide opportunities to students from across schools in the cluster to understand scientific concepts practically, **organize a Science Camp at the Cluster level.** 

- 1. Hold a meeting of Principals to decide the schedule and structure of the Science Camp.
- 2. Keep four stalls at the camp.
  - First stall: Different scientific equipments used for conducting experiments
  - Second stall: Models created by students and teachers
  - Third stall: Electronic equipments
  - Fourth stall: Math-Sci. TLMs, charts, models and puzzles
- 3. Allocate two science teachers to man each stall.
- 4. Invite schools as well as villagers to the Science Camp.
- 5. First, allow students to come in their school groups and to visit each stall one-by-one.
- 6. After the school groups have finished, provide an opportunity for teachers and villagers to view the exhibits and experiments in the stalls.

A Science Camp at the Cluster Level enables teachers to collaborate and learn from each other. It also ensures increased reach and impact.



**Cluster Level Science Camp** 

# Use of exposure visits to enable effective learning of Social Science topics

#### Innovation developed by: Hetalben K Patel

To enable students to understand the functioning of a court in its true sense, **organize a field visit for them** to a court and decide clear learning objectives of the visit.

- **1.** Arrange a visit to the Court, with a view to observe and understand its proceedings
- **2.** Divide students into three groups.
- **3.** Guide the first group to focus on what the accused is saying and how he is answering questions put to him. Also ask them to observe the treatment being meted out to the accused.
- **4.** Guide the second group to focus on the lawyers' attire and their style of questioning.
- **5.** Guide the third group to focus on the judge and his actions.
- **6.** Facilitate a discussion between all three groups.

Exposure to the real world through field visits enables students to link and apply their textual knowledge to understand real occurrences. Having clear learning objectives for a field trip is crucial to get tangible outcomes out of it.



Use of field visits to enable learning

# Application-based learning through setting up a Science Hut

#### Innovation developed by: Dharmeshbhai Ratilal Patel

To enable students to learn the application of science, set up a Science Hut as a space to conduct various experiments

- **1.** Arrive at a plan to build the Science Hut through discussion with school staff members.
- 2. Gather materials for the Science Hut and involve the students in building it.
- 3. Prepare a list of experiments to be done throughout the year.
- 4. Based on the experiments, set up the necessary equipments in the Science Hut.
- 5. Once the Science Hut has been set up, put up science charts and posters in the Hut. Also, put up newspaper clippings of interesting science news and pictures.
- 6. Divide students into group and appoint a group leader.
- **7.** Group leader to allocate date and time of experiment to group members.
- **8.** Start conducting scientific activities and experiments at the Science Hut.
- **9.** Enable group leaders to guide their group members to conduct the experiments.
- **10.** Organize activities such as dramas, exhibitions at the Science Hut.
- **11.** Invite villagers to the Science Hut and conduct activities to dispel belief in superstitions.
- **12.** Organize a Science Week and invite parents of students as well as other villagers to attend and view various science exhibits and experiments.

A space to conduct various experiments and activities related to science helps students learn the application of science, which builds up their problem-solving skills. Science is a powerful tool to fight against superstitions and a space like the Science Hut can be used to spread awareness amongst the community.



A space to conduct experiments

"The Science Curriculum must be used as an instrument for achieving social change in order to reduce the divide based on economic class, gender, caste, religion and region. "- NCF

# Developing a sense of citizenship: Writing a letter to the Chief Minister

#### Innovation developed by: Akbar Multani

To develop written communication skills and a sense of citizenship in the students, **guide them to write a letter to the Chief Minister.** 

- 1. Teach students the format of writing a letter.
- 2. Give them letter-writing practice on various situations.
- 3. Organize an activity where students write a letter and post it to the teacher's address.
- 4. Reply to children's letters that have been posted to your house.
- 5. Explain the concept of democracy and citizenship to students. Also explain the position of Chief Minister.
- 6. Guide students to write individual letters to the Chief Minister of Gujarat.
- 7. As the teacher/principal, write a letter to the CM, requesting a reply and explaining the rationale behind the letters sent by students.
- 8. Post the letters to the Chief Minister.
- 9. If a reply is received from the Chief Minister:
  - Read it out in the prayer assembly.
    - Get copies made and distribute it amongst the students.
    - Gather villagers in school and read the letter to them.

Writing a letter to a senior government official helps students gain a deeper understanding of democracy, while at the same time, enables them to pick up written communication skills through application-based learning.

### Teaching and Learning Material for conceptual understanding of place value

#### Innovation developed by: Bharatkumar Joshi

#### To enhance students' number sense, **teach them the topic of place value through an activity with the help of a Teaching and Learning Material.**

- 1. Prepare a TLM to aid understanding of place value.
- 2. Create a 10 x 5 inch board using cardboard material.
- 3. Within this, create three boxes where cards can be kept as well as moved.
- 4. Write unit, ten and hundreds on the three boxes respectively.
- Create small number cards for numbers from 0-9. Create three sets of these cards.
- 6. Demonstrate a place value question using the boxes. For instance, if the number is 518, put 8 in the units box, put 1 in the tens box and put 5 in the hundreds box.
- 7. Divide students into groups and give them practice time to solve place value problems using the box.
- 8. Give students independent practice on using the box.
- 9. Evaluate students through oral questions, group work and projects.

Teaching and Learning Materials provide opportunities for students to learn independently and in groups. By supplementing what the teacher has taught, they increase student understanding and retention.



Letter written by students to CM

# **Teaching and Learning Material for** independent learning in Maths

# Learning Social Science through activities

### Innovation developed by: Sharad Patil

- 1. The Teaching and Learning Material developed for Maths consists of six parts.
- 2. Part A is for reading and writing numbers from 1 to 100. There is also a system in place for students to find place value from 1 to 10000000. The TLM also allows students to find preceding and succeeding numbers.
- 3. Part B consists of basic concepts of Geometry for grades 1-7.
- 4. Part C is Algebra.
- 5. Part D is a Flannel Board and White Board. Here, students can do sums easily. An Abacus has also been created, to teach Vedic Maths.
- 6. Part E is games. Here, students can practice addition, subtraction and multiplication etc. using dice.
- 7. In Part F there are basic concepts of square, square root, cube and cube root. There are different samples of Weight, money, cylindrical, cube and different small models, games and activities.

A TLM that enables students to learn independently and through different methods increases their sense of enquiry and develops higher-order and critical thinking skills.



Letter written by students to CM

### Innovation developed by: Raju Dabhi

To enable students to understand the concept of maps, link it to their life and everyday experiences.

- 1. Show students milestones of the village they live in along with those of nearby villages.
- **2.** Demonstrate the making of a map by plotting the nearby villages and important milestones.
- 3. Give students practice time to plot locations of milestones and nearby villages.
- 4. Guide students to prepare a map of the classroom
  - Students to take length and breadth of • the classroom
  - Show milestones of the class on the map
- 5. Give students practice with different type of maps.
- 6. Evaluate them based on group work, independent work during class and tests.

Linking knowledge to students own experiences make it easier for them to grasp and increases engagement levels.

> "Relevant local content should be a part of the teaching-learning process, ideally transacted through activities drawing on local resources. "- NCF

# Activity-based learning and experiential learning to improve achievement levels in Math

#### Innovation developed by: Roshni Desai

To enable students to take interest in as well as understand Maths conceptually, **utilise the method of activity-based and experiential learning**.

- 1. Utilise the pedagogy of activity-based learning in teaching students.
- 2. Link the concept to students' everyday experiences.
  - **a)** Ask students where they have seen a triangle in real life.
  - b) Guide students to identify the shape of the triangle in everyday objects such as a *Samosa,* a flag and a pastry.
  - c) Show visuals of these everyday objects to enhance retention of the shape being taught.
- 3. Provide opportunities to students for experiential learning.
  - **a)** Divide students in groups and allocate different shapes to each group.
  - b) Guide students to arrange themselves in the shape allocated to them.
  - c) Facilitate students to draw the different shapes in their notebooks.

The National Curriculum Framework stresses the importance of activity-based learning in improving student engagement as well as retention of concepts. It also stresses the importance of linking knowledge to students' everyday experiences.



Students divide themselves into different shapes

"Only if the child finds the activity or knowledge being learnt meaningful, will its inclusion in the curriculum be justified. "- NCF

#### Innovation developed by: Sursingh Parmar

The innovation sprang from the question posed by a student of standard 5, which posed a challenge to teacher to invent a new key to see whether a given number is divisible by 8. **He then developed a process, to ascertain whether a given number was divisible by 8**;

- See and ensure that the last two digits of the given number are multiples of 4 (if it is not then that particular number can't be divided by 8 without reminder).
- 2. Also look at the multiplier of last two digits, whether is it even or odd.
- Look at the number in the hundred's place. If the multiplier and number in the hundred's place are both, odd or even, then the given number can be divided by 8 without a remainder. The following example will make it clear;
  - **a.** Take a number. Here, let's take 1, 24,336.
  - **b.** The last two digits (36) are multiple of 4 (9\*4=36).
  - **c.** The multiplier of last two digits (9) is odd.
  - **d.** The number in the hundred's place (3) is also odd.
  - e. So this number is divisible by 8. Following table will further explain the concept with better clarity

"The higher aim is to develop the child's resources to think and reason mathematically and to handle abstraction. "- NCF

Numbe	Wheth	Which	Wheth	Wheth	Wheth
r (for	er the	is the	er the	er the	er it is
exampl	last	multi	multipl	place	divisib
e)	two	ple of	ier is	of	le by 8
	digits	4?	odd or	hundr	or
	(Ones		even	ed in	not?
	and			the	
	tens)			numb	
	are			er is	
	multipl			odd or	
	es of			even	
	4?				
1,23,63	32 ✓	8 X 4	Even	6 -	YES
2		= 32		Even	
76,76,7	76 ✓	19 X 4	Odd	7 –	YES
76		= 76		Odd	
12,12,1	16 ✓	4 X 4	Even	1 -	NO
16		= 16		Odd	
42,42,8	52 ✓	13 X	Odd	8 -	NO
52		4 = 52		Even	
42,42,2	00 ✓	00 X 4	Even	2 –	YES
00		= 00		Even	
45,78,4	23 X				NO
23					

This kind of process, if explained properly to children, helps them to understand whether a particular number can be divided by 8 or not. It also develops interest in maths, which otherwise is considered to be a hard subject. Teaching students addition and subtraction of positive and negative integers (whole numbers)

#### Innovation developed by: Jaagrutiben Pandya

To make Maths less cumbersome, **teach it to students in a fun, activity-based manner**.

- **1.** Get hard boards (that which are generally used for any kind of packaging).
- **2.** Cut the board into various pieces of small size, of the same size (preferably in square shape).
- 3. Stick white papers on each of these cards.
- **4.** Write numbers of 0 to 9, -1 to -9, and also put signs of mathematical process on some of them (+, -, = etc).
- **5.** Give questions regarding addition and subtraction of negative and positive numbers.
- **6.** Guide students to arrange the cards according to the given question.
- **7.** Help students arrive at an answer and to place the answer card at the end.

Demystifying the mathematical process in above mentioned manner will help the teacher in promoting maths as a subject amongst students who are relatively weak in picking it up. The process mentioned above will help them to get involved in an activity and thereby make learning concepts fun.

The concept of introducing flash cards, also can be expanded to:

- Helping students to remember tables.
- Undertake other mathematical functions like multiplication, division etc.

"Visualisation and representation are skills that Mathematics can help to develop. Modelling situations using quantities, shapes and forms are the best use of mathematics. "-NCF



# **All-Round Development**

# Supplementing the midday meal to tackle anaemia

#### Innovation developed by: Dilip Bhalgamiya

To enhance students' grasping power and to aid in their physical development, **introduce pulses as a part of their diet, through the mid-day meal.** 

- 1. Organize a health camp to check haemoglobin and iron levels of students.
- 2. Tell students about the importance of pulses in improving nutrition levels.
- 3. Get a handful of pulses to school every day. Encourage students to get pulses, one handful a day.
- 4. Give the pulses to the mid-day meal cook and tell him/her to use them for preparing the mid-day meal.
- 5. Add lemon, salt, chilli and tomatoes to make a delicious dish using pulses.
- 6. Give the nutritious dish to students as part of the mid-day meal.
- 7. Encourage students to use pulses as a part of their meals at home as well as snack items.
- 8. Observe usage of pulses in students' homes through visits and discussions.
- 9. After six months, check haemoglobin and iron levels of students

Countering malnutrition helps in enhancing students' cognitive growth through better nutrition, thus improving learning outcomes. Improved nutrition also leads to increased regularity of attendance.



Supplementing the mid-day meal to tackle anaemia

# Developing decision-making and collaboration skills

#### Innovation developed by: Binduba Jhala

To develop decision-making and collaboration skills amongst students, **guide them to start and manage a school newspaper.** 

- 1. Tell students about starting a school newspaper.
- 2. Create a team of interested students.
- 3. Guide the team to start the newspaper.
- 4. Give students freedom to collect information, edit and to compile the final version.

Steps for students to follow

- 1. Deciding on content to be put in the newspaper. This can include:
  - School and village happenings
  - Poems
  - Short write-ups
- **2.** Collection of information
- 3. Preparation of rough draft
- 4. Editing
- 5. Compilation of final version
- 6. Packing of newspaper in covers, along with putting stamps and addresses
- 7. Posting to nearby villages

Giving students responsibility, improves management skills as well as the ability to work in teams, which are crucial life skills. Increasing opportunities for students to learn outside the classroom inculcates a passion for life-long learning, which is imperative in the 21<sup>st</sup> century.

> "Decision-making is a crucial life-skill for students to develop."- National Curriculum Framework

# Developing a spirit of enquiry and higherorder thinking

#### Innovation developed by: Kirankumar Agravat

To develop a spirit of enquiry and higher-order thinking amongst students, **design a general knowledge quiz for students in the 'Kaun Banega Crorepati' format.** 

- 1. Compile a list of questions from across subjects and topics such as Gujarati, Science and Technology, Mental Aptitude.
- 2. Categorize the questions, according to the 'Kaun Banega Crorepati' format, with a value being attached to each question. For instance, an easy question would be Rs. 1000, a very difficult question would be Rs 50 lakh and so on.
- 3. Add four options to each question.
- 4. Feed the questions into a MS-PowerPoint file.
- 5. Design a main page on PowerPoint, with links to different categories of questions.
- 6. Assemble students of one grade level or one class in a room and explain the rules of the game to them.
- 7. Offer three helplines to each student playing the game.
- 8. Project the questions onto a screen.
- 9. Give each student a chance to answer questions individually.

Enhanced general-knowledge gives students the opportunity to see the interrelationships between topics cutting across subject boundaries. The ability to see the connections between different topics develops higher-order thinking and analytical skills.

> "General Awareness needs to be promoted amongst children. " - National Curriculum Framework



**Quiz competition in the KBC format** 

# Peer-based learning: Street-wise study groups

Innovation developed by: Dipakkumar Patel

To enable peer-based learning, **create street-wise study groups and appoint group leaders to monitor learning.** 

- 1. Divide students into street-wise groups.
- 2. Appoint academically strong students as group leaders.
- 3. Explain responsibilities clearly to appointed group leaders.
- 4. Group leader's role:
  - Gather all members of the group from their houses for school.
  - Get all members to assemble in one house after school.
  - Supervise and guide group members in doing homework and other academic activities.
  - For absent students, meet parents to find out the reason.
- 5. Discuss daily progress of group with group leaders.

Peer-based learning opportunities outside school enable students to develop collaboration skills.

# Value education and development of problem-solving skills

To inculcate values and develop problem-solving skills in students, **guide the students to develop and lead a de-addiction campaign in their community.** 

Innovation developed by: Shailesh Chaudhary

- Create a 'Tobacco Control' Committee, consisting of 8<sup>th</sup> grade tests (You can even include 6<sup>th</sup> and 7<sup>th</sup> grade students in the Committee, if need be)
- **2.** Organize different activities through the 'Tobacco Control' Committee
  - Inform students about the benefits of tobacco control in India. Tell them about the clause which prohibits the selling of tobacco and its products to people less than 18 years of age.
  - Create working models of Lifethreatening diseases like Cancer, Asthma, Heart ailments and demonstrate the harmful effects of tobacco on human body parts like throat, mouth, hair, eyes, skin etc.
  - Create puppets of doctor, patient, nurse etc. out of waste and use them to spread awareness.
  - Organize drawing, elocution, exhibition, workshop, quiz, drama etc. on the theme of 'Harmful effects of Tobacco'.
  - Guide students to create banners such as 'Tobacco-free school', 'We are the future of India'. Hang up these banners in school as well as in strategic places in the village
- 3. Raise funds with the help of the SMC members to aid those suffering from tobacco-caused diseases.

- 4. Organize rallies to create awareness regarding tobacco-caused diseases and their treatments.
- 5. Organize an exhibition to showcase the benefits of quitting tobacco.

Developing and leading an awareness campaign builds up problem-solving skills as well as helps students internalise the message that they are spreading awareness about.



Exhibition on harmful effects of tobacco

"Problem-solving skills are essential to deal with demands of everyday life."-NCF

# Activity-based learning: Teaching workbased skills through activities

#### Innovation developed by: Arvind Sachapara

To develop problem-solving skills, creativity and to make students self-reliant, **teach them work-based** *skills through activities such as embroidery, book binding, etc.* 

- 1. Draw up a list of work-based skills.
- 2. Draw up a list of activities to teach the required work-based skills.
- 3. Teach students work-based skills through the following activities:
  - Colour making
  - Making magic toys
  - Embroidery
  - Printing
  - Making a vase
  - Oil painting
  - Spray painting
  - Glass painting
  - Book binding
  - Making paper bags and pen stands
- 4. Video-tape the activities for use as reference next year.
- 5. Make students do the activities independently through watching the videos
- 6. Evaluate the activities based on the involvement of students, their progress and the amount of collaboration taking place

Teaching students work-based skills through activities takes learning beyond the curriculum and also involves the use of local knowledge as a resource in learning. This breaks the barriers between the school and the community.

# Increasing concentration and memory through Yoga and Ayurveda

#### Innovation developed by: Ashwinkumar Dhirajlal <u>Joshi</u>

To enable increased retention of content by students, guide them to do Yoga before lessons to increase their concentration levels.

- Compile articles on Yoga, concentration and the power of the mind. Share these articles with the students and explain their learnings to them.
- **2.** Guide students to do Yoga regularly. Before lessons, enable students to do deep breathing exercise along with chanting positive affirmations in the mind.
- **3.** To eliminate fear of ghosts, make student chant incantations during the prayer assembly.
- **4.** To strengthen students' nutrition and immunity, include *tulsi* leaves in the Mid-day meal and encourage students to eat them.
- **5.** Give *tulsi* leaves and other medicinal plants from the school kitchen garden to students as cure for seasonal maladies,

Improved concentration levels and nutrition enhance students' cognitive development, enabling them to grasp and retain content in an easier manner.

> "Yoga contributes to the physical, social, emotional and mental development of a child."- NCF

# Incentivising regularity, hard work and good behaviour

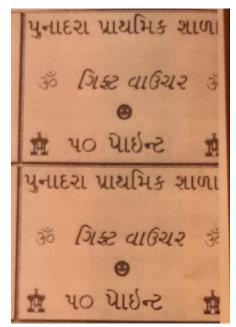
#### Innovation developed by: Vijaykumar Patel

To motivate students to adopt and demonstrate certain positive qualities and behaviours, **start an incentive program to award students based on qualities and behaviour exhibited.** 

- 1. Design an incentive scheme for the students.
- 2. Decide the criteria for awarding points. These can be:
  - Presence= 10 points
  - Cleaning School= 10 points
  - Discipline In Class= 10 points
  - Class Work = 20 points
  - Cleanliness of Uniform= 10 points
  - Involvement in assembly= 20 points
- 3. Design attractive gift vouchers, which can be given to students based on the points accrued.
- **4.** Buy different items to be given as gifts, based on the number of points accrued. These can be erasers, toothpaste, soap, toy, school bag, free picnic etc.
- **5.** Set up a *Raamhaat* in school for students to buy gifts through their gift vouchers.
- 6. Select and train students to run the *Raamhaat*.
- **7.** Inform students about the Student Encouragement Scheme and the rationale behind it.
- 8. Tell students about the different ways to earn points.
- 9. Give out gift vouchers to students based on points accrued.
- 10. Let students buy gifts from the *Raamhaat* based on the value of their gift vouchers.
- 11. Evaluate the effectiveness of the incentive program based on the following criteria:
  - Increased regularity and punctuality
  - Cleanliness of school
  - Increased discipline and involvement in extra-curricular activities
  - Cleanliness of uniform

- Behaviour in the classroom
- Qualities in which most points have been gained and qualities in which least points have been gained
- Grade-wise and class-wise data
- 12. After evaluating the effectiveness of the incentive program, involve SMC members and other villagers in financing the project.

Incentives for positive behaviour helps students rationalise the necessity of demonstrating these behaviours in the school. Awarding students based on pre-decided criteria eliminates arbitrariness and increases consistency in the teacher's behaviour as well.



Gift vouchers given for good behaviour

# Value education for students: Use of a checklist to inculcate good habits

#### Innovation developed by: Thakarsinh Bhagwan Gabu

To inculcate good habits and values in students, prepare a checklist of good habits that students can use to track their progress.

- Explain the importance of good habits to students through telling them stories of great men and their habits.
- 2. Prepare a checklist of habits/tasks that you want students to follow

	Habit	Tick/Cross
a)	Have your nails	
	been cut?	
b)	Is your hair	
	combed?	
c)	Are you wearing	
	clean clothes?	
d)	Have you taken a	
	bath?	
e)	Do you wash your	
	hands with soap?	
f)	Have you done your	
	homework?	

- 3. Include this checklist in the students' diary, along with dates.
- 4. Explain the importance of tracking good habits to students and stress on the value of filling the details honestly.
- 5. Everyday after the prayer assembly, give students time to fill in this check-list.
- 6. Track students' checklist to see which habits are being followed the most and which, the least
- Based on the data from students' checklists, focus on those habits that are being followed the least.

Giving students a tracking mechanism for measuring good habits increases selfawareness and gives students a clear bar to measure their progress on a daily basis. This enables students to internalise the value of following these good habits.

> *"Quality of* education should not be considered in fragmented terms but in a more holistic and expanded manner not in terms of number of years of schooling but the quality aspect of the development of the individual; the formation of the whole persons and full flowering of the human being and *character* building." NCERT

# Street-wise monitoring of attendance by student leaders

#### Innovation developed by: Dilipkumar K Patel

To increase regularity and develop leadership skills in students, **appoint group leaders for each street and give them the responsibility to ensure regularity of students in their street.** 

- 1. Prepare a list of students from grades1-8.
- 2. Per each street, appoint two students as group leaders.
- 3. Give group leaders the responsibility to gather students from their street and to get them to school everyday.
- **4.** At the end of each month, give an award to group leaders whose groups had the least absence. Give this award on behalf of teachers and SMC members.

Student-led monitoring of attendance ensures increases motivation to come to school due to peer-pressure and develops self-awareness and leadership skills amongst the group leaders involved in ensuring regularity of students.



Street-wise monitoring of attendance

### Increasing student retention and engagement through pre-work

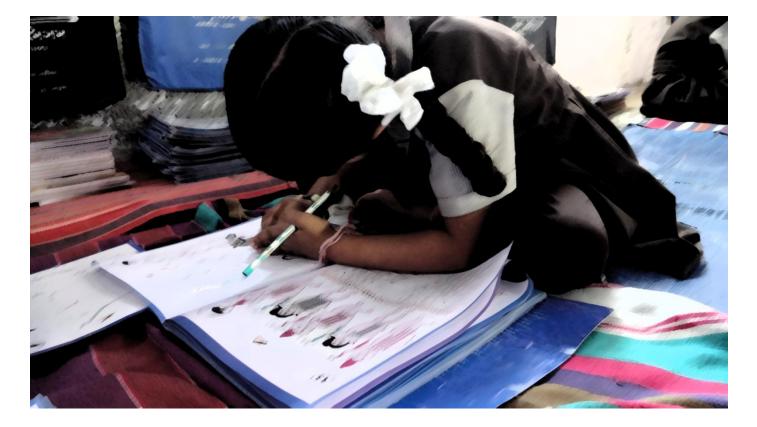
#### Innovation developed by: Bilkisbano Khanji Momin

To ensure increased student involvement during class, give them relevant pre-work for the chapter to be taught.

- 1. Allocate related pre-work to students on the day before beginning a chapter or topic.
- 2. Next day, ask them questions based on the pre-work given.
- 3. Explain the topic to them.
- 4. After this, divide students into groups.
- 5. Guide students to ask questions to each other in their groups.
- 6. At the end of the class, ask students to read the rest of the chapter and to prepare more questions.
- 7. Next day, ask questions to the entire class.
- 8. Appreciate the students who answer most questions through applause in the prayer assembly.

Use of pre-work and group work are important measures to create a learner-centric environment and to develop skills in students to study independently. Asking questions is an important skill that enables students to move from the Knowledge level on Bloom's Taxonomy to the higher level of Comprehension which involves understanding and discussing.

> "Learning must provide variety and challenge, and be interesting and engaging. "- NCF



# **Child-friendly School**

# Dalton methodology: Creation of subjectclassrooms

#### Innovation developed by: Riddhi Khaant and Hitendra <u>Galoriya</u>

To enable students to learn each subject in a more coherent manner, **create subject-wise rooms instead of classrooms.** 

- 1. Create subject-based classrooms as opposed to grade-wise classrooms. Allocate subjects to each room. One would be a Math-Science room; one would be a Language room and so on.
- **2.** Keep all TLMs (Teaching and Learning Materials) related to the subject in its subject room.
- **3.** In the Language room, keep photographs of poets, writers, grammar chart, games etc.
- 4. In the Maths-Science room, put up charts of formulas, concepts and pictures of mathematicians and scientists.
- 5. In the Social-Science room, put up pictures of historical figures, relevant maps and other reference material.
- 6. Inform students clearly about the rooms being used for different subjects. Make them write it as a part of their time-table.
- 7. At the end of each period, students will shift from one subject room to the other, based on their time-table

The opportunity to study in a new environment after each period helps to increase student engagement for each subject. Keeping TLMs of one subject together focuses attention on that subject and increases content retention.

# Vision and goal-setting for the students

#### Innovation developed by: Kiritbhai J Patel

To provide teaching catered to students' needs and to ensure their growth throughout the year, **prepare a progress file with detailed information about the student and prepare a growth plan based on it.** 

- 1. Before school starts in June, prepare a progress file for each students. Include the following things in it:
  - Strengths and weakness of the students
  - Areas of interest
  - Details on family and social background
- 2. Prepare a growth plan for the students based on the above information.
- 3. Throughout the year, fill in additional information about each student into their files.
- 4. Adapt students' growth plans based on additional information.
- 5. Cater teaching to students' needs, based on the information available about his capabilities, interests and family background.
- 6. Evaluate students' progress by comparing actual progress to the goal according to the growth plan

Preparing a clear growth plan for each student enables the teacher to focus on the individual needs of each student and ensures clear monitoring and tracking of their progress.

> "In order to undertake a holistic assessment, all aspects of learning need to be given due recognition." Continuous and Comprehensive Evaluation.

### **Creating a student-oriented school**

#### Innovation developed by: Rakeshkumar Patel

To develop a school that is student-oriented, **involve** students in taking decisions on teaching methodology, content and structure of classroom.

- 1. Involve students in deciding the structure, methodology and content of learning.
- 2. Involve students in taking decisions such as:
  - What to get to school?
  - Where to keep different things in class?
  - Where to create new items?
  - Which books to read and when?
- 3. Let students discuss and arrive at these decisions in groups.
- 4. Shift from being subject-oriented to studentoriented.
- 5. Build positive relationships with parent and enable students to learn from them as well.
- 6. Build higher-order skills through extracurricular activities such as singing, drawing, dancing,
- 7. Ask students for feedback on their learning experience and based on that, make relevant changes in the teaching methodology.
- 8. Share information and progress of this learning style with other schools through a blog and Facebook group.

A student-oriented school lets students take ownership of their learning and this builds up crucial decision-making and collaboration skills, along with instilling a sense of selfmotivation in the students.

> "Teaching and learning processes in the classroom should be planned to respond to the diverse needs of students"- NCF

### Incentive offered to increase student motivation to learn

#### Innovation developed by: Ronak Bhatia

To motivate students to learn, offer them incentives such as creating a 'magical' chalk that students can win everyday based on number of spellings remembered.

- 1. Cut a chalk with your nail to create the shape of bed legs.
- 2. On the top part of the chalk, create the shape of a man's head. Add eyes, nose and ears as well.
- 3. Use the creatively made chalk as an incentive for students to behave well in class.
- 4. Start an incentive scheme where the student who remembers the most number of spellings gets to take the 'magical' chalk home.
- 5. Write the names of the students on the board and track the number of spellings remembered by each of them.

Incentives are crucial for students to see the rationale in learning a particular concept. With incentives, students can visualise a tangible outcome for efforts put in, which increases their engagement and motivational levels.



Use of chalk as an incentive

# Developing problem-solving and decisionmaking skills in students: Student-led process to resolve school-related problems

#### Innovation developed by: Pinalben B Dekavadiya

To develop problem-solving and real-world skills in students, enable them to develop and implement solutions on their own to resolve problems being faced by them.

 Enable students to brainstorm on different issues facing them and to narrow down on one single issue.

(In this case, the issue was that water used to fill in the road leading up to school)

2. Guide students to think of probable solutions to the issue at hand.

(In this case, the students the students decided to build a path around the space where water used to fill up. For this, they announced their plan in the prayer assembly and also prepared a plan of materials required.)

- 3. For implementing the plan, divide students into groups.
- 4. Facilitate the implementation of the plan by the students.

(The students met the bricklayers in the village and understood how to lay bricks.)

- 5. Enable the students to get the required materials.(*The students got equipments to lay the road as well as pebbles, stones to fill it*)
- 6. Document the project and share it with others.

Developing solutions to real-world problems and working in a group to implement them gives students an opportunity to develop collaborative skills along with increased problem-solving ability, which leads to faster cognitive growth.



Student-led process of solving problems

"Learning takes place both within school and outside school. Learning is enriched if the two arenas interact with each other."-NCF

# Developing school infrastructure & atmosphere to promote learning amongst students.

#### Innovation developed by: Kamlesh Kosambiya

In order to develop a school infrastructure that promotes education even when children are out of the class, a lot of innovative thinking has to go into the process. Following process may help to define what child-friendly and child-centric school means;

- In order to establish or develop facility, if needed, mobilize resources from outside. Think about innovative ways to generate required resources (in this case, teacher circulated empty envelopes, wherein people could put as much money as they wished or they could afford, thereby implementing the idea of "Gupt-Dan" (Anonymous Donation).
- 2. Use the collected money to purchase things/equipments that is not available through school grant (provided under SSA). Remember to keep all the transactions clear and to take SMC into confidence for the entire process.
- **3.** Use each corner of the school compound to create a space, which can be used for some learning process. This will help children to keep learning even when they are playing during recess.
- **4.** Plant trees and plants in the compound and see to it that they are being taken care of. Assign responsibility to fellow teachers or students to look after these trees and plants.
- **5.** Even in the school building, try to optimize the possibility of transferring learning and information to children (use walls, steps, doors and window panels to write important messages and slogans.).
- 6. Involve children in the decision making process for various facilities to be established in school. Take their feedback into account and help them take the ownership of the school and its premises.
- Promote following processes to ensure children's participation in various activities in the school;
  - **a.** Give children responsibility to organize the School Assembly

- **b.** Implement reading programmes in the school to promote reading amongst children.
- **c.** Give children exposure to various organizations, institutions and places to gain practical and hands-on knowledge and information.
- **d.** Organize functions wherein children participate. Invite parents as guests to see the function.
- e. Involve children in extracurricular activities like drawing, singing, puppetry preparation and its shows etc.
- f. Invite dignitaries of diversified disciplines from block and district level to engage sessions on their respective subjects and invite parents to attend such sessions; this will help to strengthen school-community relationship.

The importance of a conducive environment for learning is self-evident. Creation of such an environment helps promote education amongst the under-privileged sections of society.

> "Classrooms can be brightened up by first ensuring adequate natural light inside and then made lively by displaying children's work on the classroom walls as well as in different parts of the school."- NCF



# Use of technology in learning

# Enquiry based learning: Teaching students to search for information on the internet

#### Innovation developed by: Sootakali Thakor

To develop technological competencies and to facilitate enquiry-based learning, **guide students to search for information on the internet.** 

- 1. Train students to use the computer for one week.
- 2. Teach students to access the internet on a computer as well as a smartphone.
- **3.** Teach students how to search for information on the internet using Google and Wikipedia.
- **4.** Show students the steps to locate and view scientific experiments on YouTube.
- 5. Guide students to use the internet; give practice of half-hour every day for two weeks.
- 6. Give students homework and projects that involves the use of the internet for finding information. Tell students to find out/view:
  - Names of famous scientists
  - Different types of scientific experiments related to the chapter being taught
  - Videos of English conversation

Teaching students to access the internet expands the knowledge base available to the student beyond the teacher and the textbook. This encourages the spirit of enquiry by making multiple information sources available to the students. While this may sound very ordinary, in remote rural schools which have been provided internet connectivity, such initiatives make learning interesting.



Teaching students to use the internet

### Resource-sharing amongst teachers

#### Innovation developed by: Kamlesh Zapadiya

- 1. Compile different educational resources for use by teachers
- 2. These resources include:
  - Tests
  - Printable sheets
  - Games
  - Useful links
  - Presentations and videos related to chapters
  - Stories
  - Online tests
  - Resources shared by other teachers
  - Question forum
- 3. Use these resources in class and encourage other teachers as well as teachers to use them.

# Technology aided-learning: Developing TLMs and organizing quizzes

#### Innovation developed by: Mehulkumar Prajapati

To increase student engagement and retention, **use technology to compile different resources for the topics and organize activities such as quizzes.** 

- 1. Compile resources for social science topics from the internet. Download relevant videos and pictures.
- 2. Prepare PowerPoint presentations for topics being taught, using the compiled resources.
- 3. Prepare projects, charts and models for difficult topics.
- **4.** Compile a list of questions from across different chapters. Give options for each question.
- 5. Organize a quiz competition for students. Divide students into five groups for this purpose.
- 6. Name each group after a freedom fighter
- **7.** Rules of the game:
  - 20 Points for answering without options
  - 10 points for answering with options
  - -5 for the wrong answer
- **8.** Encourage all the participating teams and give an award to the winning team.

Using technology in compiling and presenting information to students enhances their learning experience. Quizzes act as platforms to develop critical thinking in students.



Use of technology to enhance learning experience

"Given the growing reach of the technology, it is imperative that efforts are initiated to utilize ICT at the school level to prepare children to face the challenges of a society that is fast transforming into an information driven society. "-NCERT

### Learner-centric methodology: Use of Elessons in Gujarati

#### Innovation developed by: Jignesh Gohil

To enable student-centred learning, **give students opportunities to select what to learn and which media to use for learning.** 

- 1. Create a web page on Google sites.
- 2. Compile e-lessons of textbook chapters with the help of the internet. (In this case, Gujarati lessons were prepared. However, e-lessons can be prepared for other subjects as well.)
- 3. Make use of images, videos, text and audio in preparing the e-lessons.
- 4. Divide students into groups.
- 5. Connect the computer to the internet and project through a LCD screen.
- 6. Guide students through the process of using the different parts of the e-lessons. Show them how to select the chapter and the different types of media available such as images, audio, text etc.
- 7. In groups, give students independent learning time to use the e-lessons.
- 8. Students can select what to learn and type of multimedia for the selected content.
- 9. Evaluate students based on observation during lessons and through taking feedback.

E-lessons that combine the use of text, images, audio and video help make learning an interactive process and also cater to different forms of learners such as kinaesthetic, visual, auditory and tactile. "ICT should be used in such a way that it becomes an opportunity equalizer, by providing information, communication and computing resources in remote areas. "- NCERT



**E-lessons for students** 

# Student-led learning and differentiated instruction

#### Innovation developed by: Mehul Suthar

To enable individualized attention to each student and to facilitate student-led learning, **give laptops to each student with pre-installed educational programs** 

- 1. Give students laptops, which are connected to the main teacher laptop. (Teacher can see programs being run on each laptop).
- 2. Teach students the basic functions of the laptop such as
  - Starting and exiting the system
  - Saving data
  - Typing
  - Preparing presentations etc.
- 3. In class, run the necessary educational program on the student laptop through the server laptop.
- **4.** Monitor the progress of different students through the server laptopand guide when required.
- 5. Allow students to take the laptop home once a month to explore different functions.
- 6. Give students projects that require the use of the computer.
- 7. Tell students to present their project work with the use of presentations.

Individualized learning, with the help of technology, enables students to learn at their own pace, thereby enhancing effectiveness of instruction "Innovative pedagogies should be implemented in the classroom, including those that leverage technology in the classroom."-Planning Commission



**Opportunities for individualized learning** 

# Technology-aided learning to increase student engagement

#### Innovation developed by: Rajeshkumar Barochiya

To increase student engagement and retention of content, **create short films based on topics being taught.** 

- 1. Prepare a short script based on the lesson being taught.
- 2. Prepare a list of characters in the story.
- 3. Collect relevant pictures based on the lesson.
- 4. Shoot relevant clips in the village to include in the film.
- 5. Compile the text, pictures and video clips into one film.
- 6. Involve students in giving the voice-over for different characters.
- 7. Add any effects if required and create the final movie.
- 8. Show the movie in class and gauge the interest levels of the students and take their feedback.
- 9. Involve a different set of students for giving the voice-over next time and also take students along while shooting clips in the village.

Involving students in creation of classroom content increases retention as well as gives them a sense of ownership over what is being taught.



Animated films created by teacher

# Technology-aided learning: Broadcasting of educational programs on TV sets

#### Innovation developed by: Maulikkumar Govind Patel

Use technology as an enabler to increase effectiveness of teaching and learning in the classroom. For this, put up a TV sets in the school and show students educational programs on them.

- 1. Speak to the Principal and teachers to arrive at a solution to the problem (*In this case, it was decided to put up a TV set in each classroom as a TLM to aid the teachers, who had been directly recruited.*)
- 2. Start a campaign in the village to donate old TV sets to the school.
- 3. Put up donated TV sets in each classroom of grades 6-8.
- 4. Set up a server room with modulators, in the school.
- 5. Enable cable connectivity in all the TV sets.
- 6. Connect dishes from BISAG and Doordarshan to the modulators in the server room.
- 7. In each classroom, put up the six-month schedule of the programs to be broadcasted.
- 8. Appoint group leaders to operate the TV sets in each class.
- 9. Enable the class to watch educational programs on the TV sets.
- 10. During recess, guide a set of students to deliver news from the server room.
- 11. Broadcast these news on the TV sets in each classroom

Technology-aided learning results in increased student engagement and retention of knowledge, due to enabling a visual presentation of facts and concepts.

### Technology-aided learning for Pragna

#### Innovation developed by: Analben Patel

To enable increased retention and engagement in students, **use technology to enhance the learning experience through the use of different audio, pictures and videos related to chapters being taught.** 

- **1.** Conduct a pre-test to find out students' learning levels.
- **2.** Search for supplementary material on the internet, based on the different projects and milestones under Pragna.
- **3.** Use technology in the form of a laptop and tablet to give students extra knowledge and to enhance their learning experience.
- **4.** Make use of audio-visual aids through technology to teach poems and stories.
- **5.** Guide students to render dramas to demonstrate their learning.
- **6.** After using this methodology for some time, conduct a post-test to gauge students' current levels.
- **7.** Compare the pre-test and post-test scores to evaluate the effectiveness of the methodology.
- **8.** Hold a training session with other teachers to share your knowledge.

Technology enables the teacher to cater to the needs of different learners through the use of multiple media. Conducting pre-tests and posttests is crucial to measure the effectiveness of any teaching methodology and to take corrective steps, if any

### Preparing a mobile computer van for students of schools in interior areas. Innovation developed by: Lalitbhai Padhar

To ensure that children of the interior villages, also get the opportunity to learn computers, this kind of van can be helpful, wherein computers are placed and other arrangements are done so that mobile computer can is prepared.

- Mobilize resources to a large vehicle (may get one used vehicle of such sort or mobilise monitory resources to purchase one such vehicle).
- 2. Get the modification done in order to ensure that 2 to 3 computers (preferably desktops) can be placed in the rear part of the vehicle.
- 3. Get two to three used or new desktop computers through resource mobilization.
- 4. Place these desktops in the rear part of the vehicle, where arrangements are made for this purpose.
- **5.** Arrangements can be done in a manner that computers are placed on the table; CPUs are placed beneath the table and sliding drawer like arrangements are done for the key board.
- **6.** For electricity provision, wiring can be done in a way so that wherever the van is taken, you can plug in the connection and can get the electricity supply to van for computers.
- 7. Alternate arrangements also needs to be ensured so that in case where and when electricity supply is not there, can get power from alternate sources (for example, batteries can be arranged for this purpose)
- 8. Take this van to the interior parts where still computer availability is a problem for the school and demonstrate the use of computers and motivate and allow children to use computers.

Though now computers are made available to all Primary schools, its usage is still a challenge. Such innovations help teachers to provide opportunities to the children even in interior areas to get acquainted with technology.

# Improving the quality of education through increased community involvement and use of technology

Innovation developed by: Subhashbhai Rathod

Involve the community in education through various meetings and mobilisation of SMC members. To enhance students' learning experience, make use of various media, which will cater to the needs of different learners.

- **1.** Organize a meeting in village to speak about the importance of education and the future plans of the school.
- 2. Meet villagers individually.
- **3.** Involve SMC members in the efforts to improve education by explaining the importance of their role.
- **4.** Motivate SMC members to involve other parents in the school activities.
- 5. Raise funds to set up 'Smart Classes.'
- **6.** Set up a projector and computer in the classroom and teach with the help of various softwares.
- **7.** Use various forms of media to enhance students' learning experience.
- **8.** For each topic, make use of reference materials available on the internet to enable students to learn a topic through multiple sources.
- **9.** Guide students to use the softwares on their own for independent learning.
- **10.** Improve the school infrastructure to make it a clean, attractive place that is conducive for learning.

Increased community involvement in education is crucial as it enables a level of consistency in efforts put up by teachers and parents to aid in the development of the children. Use of technology increase student engagement through an enhanced learning experience and caters to the needs of different learners.



Using technology to increase student engagement

"Technology can be used to enable students to access new sources of knowledge, interpret them, and to create knowledge rather than be passive users."- NCERT

# Technology-aided learning: Enhanced understanding of scientific concepts

#### Innovation developed by: Daksha Parmar

To enable students to learn conceptually as well as to pick up technological competencies, **teach them with the help of technology and enable them to use technology as well for independent learning.** 

- 1. Explain each concept of Science through use of videos and pictures.
- 2. Download pictures, videos and information related to different science concepts from the net. Store this on the computer in the classroom as well as the computers in the lab.
- 3. Guide students to access the information about Science on the computer.
- 4. Teach students to prepare presentations on the computer.
- 5. Divide students into groups.
- 6. Give them a project to prepare a presentation on the computer using the downloaded resources.

Preparing presentations on the computer will have a two-fold benefit for the students: 1. It is a form of application-based learning, which enables students to apply their concepts as well as builds communication skills. 2. It builds technological competencies in them, which is a crucial 21<sup>st</sup> century-skill.



Students prepare presentations using technology

"The creative potential of the computer, and the liberating potential of the internet, can only be unleashed when we actively make these kinds of demands of these technologies. The students of the future should be oriented to this



# **Enrolment and Attendance**

### Increasing enrolment: Student incentives and community support

#### Innovation developed by: Deepali Kamleshpuri

To enable an increase in enrolment, offer incentives to students and take the support of the community institutions in enrolling non-school going children.

- 1. Create weekly, monthly, quarterly, half-yearly and yearly plans and strategies.
- 2. Speak to students about the need to enrol non-school going children.
- 3. Offer incentives to students to get irregular or non-enrolled students to schools. Incentives can be in the form of notebooks, storybooks, stationery products and other items that they can use in school.
- 4. Garner support from the School Management Committee and Panchayati Raj Institution members for getting non-school going children enrolled.
- 5. Create groups of STP (bridge class) members based on proximity of houses.
- 6. Moderate a process of group-based monitoring of absence where group members of absent students will :
  - Go to the absentee's house.
  - Enquire about reason of absence.
  - Encourage her to come to school regularly.
- Guide current students to motivate nonenrolled students to come to school; students to explain the importance and advantages of coming to school regularly.
- 8. Create a list of students who have contributed the most in increasing enrolment.
- 9. Felicitate these students in front of the school, with their parents in attendance.

### Making students feel comfortable in school: Felicitation program for mothers of 1<sup>st</sup> graders

#### Innovation developed by: Vitthal Sarvvaiya

After enrolment, **create an atmosphere of trust in** school to make first grade students feel comfortable through organizing a felicitation program for their mothers.

- 1. Plan a week-long felicitation and orientation program for mothers of first grade students.
- 2. In the first week of school, invite mothers and students to school.
- 3. Organize different activities for the mothers.
- For the first two days, organize games. Next two days, organize Antakshari and have cooking competitions on the last two days.
- 5. Give prizes to winners of different competitions.

Felicitation of mothers increases their involvement in their child's education and helps students feel comfortable in an unfamiliar environment.

> "Schools should also invite the community into their premises, and give the larger world outside a role in influencing the learning process. "-NCF

# Increasing access to education in a remote area

#### Innovation developed by: Kanubhai

To increase access to education in a tribal area, set up a residential hostel for the students to eliminate travel time and risk in travelling through an isolated area.

- Organize a meeting with the Principal, teachers and CRC officials to discuss the plan for setting up a residential hostel.
- **2.** Fix a nominal hostel fee for the students, to meet the expenses.
- **3.** Organize a parents meeting and discuss the cost of the hostel with them.
- **4.** Raise funds from donors and also the CRC officials, teachers and Principal, if required.
- **5.** Recruit a couple from the village to stay on the hostel premises to take care of the students and to teach them life-skills.
- **6.** Get materials from the market for the students.
- **7.** Provide opportunities for family members to visit the hostel as frequently as possible.
- **8.** Organize various extra-curricular activities at the hostel to enable all-round development of the students.

Building a hostel in a remote area is a crucial measure to increase access to education and prevent dropouts. A hostel also offers the advantage of increased instructional time as well as the flexibility to develop various lifeskills in students after-school hours.

# Provision of nutritious food to aid students' growth and increase regularity

#### Innovation developed by: Laxman Panada

Provide nutritious food to students by setting up a kitchen garden in school

- 1. Select a group of students for setting up the kitchen garden.
- 2. Divide selected students into smaller groups.
- 3. Allocate specific responsibilities to each group.
- 4. Grow various vegetables in the kitchen garden.
- 5. Monitor their growth.
- **6.** Use the vegetables from the kitchen garden everyday for preparation of the mid-day meal.

Availability of nutritious food on an everyday basis will improve students' health, increase regularity and aid cognitive growth.



# School-Community

# Learning through action-based enquiry: Conducting surveys of the prevalence of diseases in the village

#### Innovation developed by: Chetan Shah

To develop problem-solving, communication and collaboration amongst children, and to understand the process of data-based scientific enquiry, **encourage students to conduct surveys on different issues in their community**.

- 1. Prepare a survey form based on teacheridentified topic (in this case, disease patterns in the village).
- 2. Divide students into groups.
- 3. Appoint groups leaders and explain their responsibilities to them.
- 4. Prepare a survey form based on information required.
- 5. Train students to collect data using this survey form.
- 6. Allocate different streets to different groups.
- 7. Guide students to also spread awareness about the issue while collecting data.
- 8. Guide students in analysing the collected data.

This method can be used for a variety of educationrelated topics as well:

- Conducting a survey on availability of reading material in the homes of children
- Conducting a survey on T.V. viewing
- Amount of time spent by children on homework
- Finding out from children who provides home learning support

This method is a mode of discovery-based learning that provides learning opportunities to children outside the classroom. In this case, the teacher used the method of enquiry to also spread awareness. This is different from the formal scientific approach which prescribes a dispassionate position. The form of research the teacher has used is best termed a variant of action-based research.

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Survey form for documentation of issue

# Involving community in improving learning outcomes: Youth mentors for students

#### Innovation developed by: Hiren Patel

To improve regularity and to provide students specialized attention, **involve the community youth in mentoring the students**.

- 1. Form an organization/body and recruit members from the school staff and village youth.
- 2. Mobilize youth with B.Ed. and PTC degrees to volunteer in the school.
- 3. Allocate classrooms to mobilized youth volunteers.
- 4. Youth volunteers to assist teacher in allocated classroom.
- 5. Appoint volunteers as mentors for two students each.
- 6. Volunteers to monitor progress of their set of students through home visits, discussions with parents, checking test scores, etc.
- 7. Honour village elders in school.
- 8. Involve entire community in organizing an annual day in school.

Community involvement increases accountability of the schooling system and improves learning outcomes as a result of monitoring by multiple stakeholders. Mentorship helps students get personalized attention, leading to quicker academic progress. It also provides educated youth a chance to volunteer and be of service to the community. Forming an informal association is crucial to give the youth a special identity.



Youth mentors for students

# Parental involvement in learning: Spreading awareness about the pedagogy in the schools

#### Innovation developed by: Rameshchandra Patel

To increase parental involvement in learning, **spread awareness about teaching methodology used in school through meetings, pamphlets and visits.** 

- 1. Prepare a pamphlet explaining the approach (in this case, the Pragna approach).
- 2. Prepare an invitation card for a parents meeting.
- 3. Meet parents to invite them for the meeting.
- 4. Hold the parents meeting and distribute pamphlets.
- In the meeting, explain the objectives, process and methodology of the Pragna approach; also, showcase the Teaching and Learning Materials used in this approach.
- Arrange classroom visits for parents to observe teaching and learning methodology used.
- Organize an exhibition at the end of the year for children to showcase their work and learnings to their parents.

Spreading awareness about the teaching methodology increases parental involvement in their child's learning, creating a supportive atmosphere for academic growth at home. Even in the absence of a Pragna approach, explaining and showcasing the regular methods and materials used will promote parental involvement.



Students work showcased to parents

# Spreading Awareness in the community: Tobacco de-addiction campaign for parents

#### Innovation developed by: DigvijayDabhi

To spread awareness about de-addiction in the community, **run a campaign for parents through discussions, sharing information and meetings.** 

- Make students aware of the harmful effects of tobacco through sharing information in the prayer assembly and through classroom discussions.
- **2.** Create an album containing pictures and information on harmful effects of tobacco.
- **3.** Give the album to each street one-by-one.
- **4.** Guide students to garner support from other family members to help the addicted person in their family.
- **5.** Invite parents in school to take a pledge to quit tobacco.
- **6.** Give certificates to parents who have pledged to quit tobacco.
- **7.** Every 15 days, have a discussion with students on the progress made.

Involving children in the de-addiction campaign as agents of change makes them internalise the harmful effects of tobacco as well as promotes self-awareness and problemsolving ability. A de-addiction campaign for parents is also a step towards creating positive role models in the community.



Exhibition on harmful effects of tobacco

# Problem-solving and decision-making skills: Student-led tobacco de-addiction campaign

#### Innovation developed by: Punit Ramesh Upadhyaya

To develop problem-solving and decision-making skills amongst students, **guide them to develop and execute a tobacco de-addiction campaign** 

- 1. Facilitate a discussion amongst students to arrive at the main issue (in this case, tobacco addiction).
- 2. Guide students in brainstorming on ideas to solve the problem.
- 3. Motivate students to execute the given steps as a part of their plan
  - a) Go on a fast to make their parents quit Gutka.
  - b) Organize a Gutka-free rally.
  - c) On *Rakshabandhan*, girls to tie rakhis to the men and to make them pledge that they would give up their addiction.
  - d) Enact street plays on Gutka-free society.
  - e) Prepare and give a Memorandum to Sarpanch on creating a Gutka free village.f) Burn 'Gutka Raavan.'
- 4. Evaluate campaign through conducting surveys and through discussions with villagers.

Enabling students to design and implement programs for social improvement helps them learn real-world skills such as problem-solving and decision-making, along with helping them internalize the message that they are trying to spread awareness about. The use of culturally important symbols like the rakhi is also to be encouraged.



Tobacco de-addiction campaign

# Increasing community involvement in education: Street-Wise Education

#### Innovation developed by: Rajeshkumar Teriaya

Apply the concept of peer-based learning to enable student to learn after-school hours by **allocating a house in the community to different grade-wise study groups.** 

- Organize a parents meeting and garner support from them to take responsibility for teaching the students after school-hours.
- **2.** Divide students into grade-wise groups.
- 3. Appoint grade 7 students as group leaders.
- 4. Allocate a house to each group.
- 5. Make parents responsible for monitoring the group in their house.
- **6.** Allocate different streets to teachers for monitoring.

Opportunities for supervised learning in the community ensure that there is continuity between the school and home environment. This creates a conducive atmosphere that is crucial in improving learning outcomes.



#### Innovation developed by: Sukh Munirkhan

To increase parental involvement in their ward's learning, communicate results of each test to parents through messaging them on their mobile.

- 1. Tell students about the importance of communicating test results to their parents.
- 2. Teach students and parents the procedure to view messages on the phone.
- 3. Take a test.
- 4. Communicate the result to parents the next day through SMS.
- 5. Evaluate parental involvement through analyzing data of tests taken.

Parental involvement and monitoring of learning ensures that students get a supportive and conducive environment at home to pursue their academic goals, which has a positive impact on learning outcomes.



Learning after school

"All schools need to look for ways in which parental participation and involvement can be encouraged and sustained."- NCF

# Creating a culture of reading in the community

#### Innovation developed by: Amrutbhai D Patel

To create a culture of reading in the community, make books freely available to all villagers by keeping a set of books in the village dairy.

- 1. Raise funds to buy a set of books across categories.
- 2. Keep these books in the village dairy, for villagers to pick up.
- 3. Also keep a register at the dairy for villagers to enter their name along with the book being borrowed.
- 4. Encourage students to take interest in extra reading.
- 5. Provide opportunities to students to read books everyday.

The existence of a culture of reading in the community motivates students to take interest in reading as well, and ensures that there is a consistency in the home and school environment. Adults who read in the community also act as positive role-models for the students.

# Developing a relationship of trust with parents

Innovation developed by: Kailashben Leelachand <u>Prajapati</u>

To convince parents about sending their daughter outside the village for a field trip/competition, meet them, **try to understand their problem and then reassure them of their daughter's safety.** 

- 1. Meet the parents and try to understand their problem.
- 2. Explain the opportunities offered by the competition in developing skills in their daughter.
- 3. Reassure parents by seeking to take full responsibility for their daughter's care.

# Increasing community involvement in education

#### Innovation developed by: Sangeeta Rathod

- 1. Arrange different awareness programs in the village such as educational rallies.
- 2. Approach parents for their suggestions and help for problems facing the school (In this case, there was no proper road leading up to school).
- 3. With the support of parents, approach the government officer to improve the roads.
- 4. For a problem in the mid-day meal, take the support of the parents and approach the officer in-charge of the mid-day meal.
- **5.** For a problem regarding lack of space in school, spread awareness amongst the villagers.
- **6.** Arrange for spare land from the villagers and construct new classrooms there.

Involving the community in solving school problems increases their sense of ownership of the school and also builds up a good rapport between the teachers and the parents.

> "The school environment and materials should incorporate traditional traditional language and skills, and create a stimulating school environment that responds to the child's home and community environment. "- NCF

# Bringing social change and eliminating caste-discrimination

#### Innovation developed by; Mayurkumar Bhikha Rathod

To bring about social change and to eliminate castebased discrimination, increase awareness amongst the community and make students of different castes sit together.

- 1. Organize a parents' meeting to speak to them about the need for eliminating caste-based discrimination.
- 2. Show video clips and share stories of *Harijan reformers.*
- 3. Spread awareness amongst students about caste-discrimination and ways to eliminate it.
- 4. Change the seating arrangement of the students.
- 5. Make a student of the *Harijan* caste sit with a student of some other caste.
- 6. Guide students to work with each other and to learn from each other.
- 7. Make students of different castes sit together even during the Mid-day meal.
- 8. Encourage students to work with each other even after school and to visit each other's houses.

Encouraging students of different castes to sit and work together goes a long way in eliminating long-held perceptions of backward castes and ensures that students internalise the values of fairness and equality.

### Mobilisation of volunteers from the village to make up for the shortage of teachers

#### Innovation developed by: Paresh Shantilal Dand

To make up for teacher shortage, **mobilise volunteers from the village to teach the grades lacking teachers.** 

- 1. Speak to the village community and NGOs in the area about the lack of teachers.
- 2. Mobilise educated volunteers to teach the grades lacking teachers.
- 3. Train the volunteers in the fundamentals of teaching.
- 4. Guide the volunteers to start teaching in school.
- 5. Monitor the progress of the student.

"Improvement of the quality of education is strongly linked to the quality of physical space, textual materials, textual materials, classroom processes, academic support to the teachers, assessment procedures and community involvement."- NCF

# Eradication of superstitions amongst the parents and community members

#### Innovation developed by: Vikram Gohel

To address the issue of superstition prevalent amongst parents and other community members in the village, **use children as a change agents**, **through their involvement in cultural and awareness generation activities;** some of them mentioned below;

- Street play enactment in front of the village during their leisure hours or late evening hours. Develop the necessary skit yourself or with the help of external support (other teachers or some volunteers).
- Make children, organize rallies and other public awareness programmes like public meetings to address the issue (prepare the points and agenda of these meetings beforehand and involve children of higher standards to engage such gatherings).
- Invite parents during children's meetings at the school and discuss with them about the superstitions prevailing in the community and how the issue is to be handled effectively, without violating their beliefs.
- Discuss the issue with the other young people of the village. Take their support in handling these issues effectively and without challenging the beliefs and sensitivity of the people.
- Raise the issue during SMC meetings also and involve them in carrying out advocacy with the community and parents.

School-led programs to spread social awareness help in strengthening schoolcommunity relations and eventually help in changing the image of a school from merely being a government institution to that of a community institution.

This strategy/activities also can be put to use to;

- Address the issue of addictions amongst parents of children who are studying in the school.
- Generate public sensitivity towards issue of female feticide.
- Other issues perceived by school teacher, which require public awareness generation.

"In a progressive forward-looking society, science can play a truly liberating role, helping people out of the vicious circle of poverty, ignorance and superstition."-NCERT

# Developing a school and promoting education in a tribal set-up.

#### Innovation developed by: Revabhai Prajapati

It is a challenge to create a conducive environment for education in a tribal set up, mostly located in the interior areas of the district. There are no readymade steps or strategy to address this kind of situation, but following steps will certainly help to establish a rapport with the community and convince them about the importance of educating their children;

- 1. Undertake house to house visits at the start of the academic year, and talk to them in their language.
- 2. With the help of village leaders and children, try to compile the words and phrases of the local dialect, which majority of the children speak in the school (detailed steps of this process are given cases of Shri Mansingbhai Pargi and Shri Ketanbhai Vyas).
- **3.** Teach children to speak Gujarati clearly, with the help of the dialect they usually speak (i.e. helping them to understand Gujarati through their own dialect).
- 4. Familiarize and train teachers, who are not local, with the language of the land through Gujarati and the compilation of words and phrases that have been created.
- Organize some events at the school and invite parents and other leaders to school functions. Involve children in organizing and hosting these functions.
- **6.** Inform the community about the various government welfare schemes

Putting efforts to strengthen the rapport with the community and thereby ensuring the enrolment and regular attendance of all the children will help to achieve the primary goal of Right to Education Act, \_\_\_ which emphasizes on "education for all"

> "A renewed effort should be made to implement the three-language formula, emphasising the recognition of children's home language (s) or mother tongue (s) as the best medium of instruction. These include tribal languages. "- NCF

#### **Teachers as Transformers: Innovations from Gujarat's State Schools**



# Special-Focus Group: Girls and Disabled

### Awareness of girls education: Increasing community involvement

#### Innovation developed by: Manisha Jadhav

To improve enrolment and regularity of girl students, involve and spread awareness amongst the community through puppets, dramas, songs and stories.

- **1.** Enact dramas, narrate stories and sing songs in the prayer assembly to spread awareness about girls education.
- 2. Principal to give lectures on girls education.
- **3.** Take the support of SMC members and the Sarpanch to spread awareness in the community.
- **4.** Hold a meeting with mothers to explain the importance of girls education.
- **5.** Show videos prepared by the government and other agencies to students and parents outlining the advantages of girls' education.
- **6.** Use puppetry to spread awareness about the issue in the community.
- 7. Monitor girls enrolment and regularity.

Spreading awareness about girls education in the community helps create support mechanisms to ensure increased enrolment as well as regularity of girls.



Spreading awareness about girls education

## Development of work-based skills amongst girls

#### Innovation developed by: Samarjahan Sheikh

To develop work-based skills amongst girls, which can also help them generate income, **teach them skills such as glass painting, ceramic painting etc.** 

- 1. Teach girl students skills that can act as current as well as future income-generators
- 2. Teach these skills:
  - Glass painting
  - Ceramic painting
  - Best out of waste
  - Jewellery making
- 3. Help the students in selling these items.
- 4. Teach students about the concept of savings and ways to save the income generated through sale of their products.

Teaching work-based skills to girl students helps them generate an income, pick up life skills and also to focus on academics without worrying about the financial condition at home. This reduces the incidence of dropouts and enables students to continue their education, sometimes through bearing their education expenses on their own.

> "An experience of involvement in productive work in an educational setting should make one appreciate the worth of social life and what is valued and appreciated in society."- NCF

# Confidence-building activity for girl students

#### Innovation developed by: Rajeshkumar Zalariya

To build up confidence in girl students as well as to make them self-reliant, **organize a karate training program for them.** 

- 1. Arrange for a space to conduct the training.
- 2. Raise funds to buy the necessary equipment.
- 3. Speak to parents and girl students of the value of karate training.
- 4. Prepare a list of interested students.
- 5. Speak to people in the village as well as outside, who have expertise in Karate.
- 6. Convince them to contribute a few hours every week to conduct karate training for girl students.
- 7. Decide upon a karate instructor.
- 8. Start karate training in the allocated space.
- 9. Involve students, parents, villagers and the instructor in reviewing the karate training program and its benefits.



Karate program to build self-confidence

# Inclusive education: Integrating a disabled student into the classroom

#### Innovation developed by: Rameshkumar Chauhan

To integrate a disabled child into a classroom, sensitise students and give them responsibilities to help the disabled student feel a part of the class.

- 1. Speak to the parents to convince them to send their disabled child to school.
- 2. Sensitise students in the classroom to help the disabled student whenever required.
- 3. Give responsibility to a group of students to take the child to toilet everyday.
- 4. Motivate the student by frequently praising him for his efforts.
- 5. Provide differential learning opportunities to the student through providing one-on-one attention and teaching content catered to his learning level and needs.

It is crucial to provide differential support to a disabled student to make learning more effective, ensure regularity and eventually, prevent dropouts.

> "It is important to create an inclusive environment in the classroom for all students, especially those who are at risk of marginalisation, for instance, students with disabilities. "- NCF

# Mainstreaming a mentally-challenged child

#### Innovation developed by: Yogendrakumar Patel

To mainstream a mentally-challenged child, **involve him in school activities by giving him responsibility and providing opportunities for differentiated learning.** 

- Sensitise the students to accept and involve the mentally-challenged child in their activities.
- 2. Tell stories and show videos of mentallychallenged children who have succeeded in life.
- 3. Give responsibilities to students to help the mentally-challenged child.
- 4. Speak to the child one-on-one to find out his interests. Give him opportunities to showcase his talent. This can be singing, dancing, painting, playing instruments etc.
- 5. Involve him in activities in the school assembly such as
  - Playing the dholak
  - Asking questions
  - Managing and compering the prayer assembly
- 6. Give responsibilities to him to make him feel a part of the school. Give responsibilities such as:
  - Arrangements for distribution of food during Mid-day meal
  - Closing doors and windows after school gets over
- Provide opportunities for differential learning (In this case, the teacher who is now a CRC coordinator organizes special classes for such children a few days a week)

Mainstreaming a mentally-challenged child gives him the confidence and motivation to continue in school as well as to pick up skills that will hold him in good stead, long after school is over.

> "A student with a disability has an equal right to membership of the same group as all other students. **Differences** between students must be viewed as resources for supporting *learning rather* than a problem. Inclusion in education is one of the components of inclusion in society. *"- NCF*

## Improving regularity of girl students from an underprivileged community

#### Innovation developed by: Jhiniben Chaganbhai Halpati

To convince irregular girl students to come to school, use a multi-pronged approach to spread awareness and provide incentives for coming to school regularly.

- 1. Contact parents of irregular students to convince them to send their daughters to school regularly.
- 2. Impart sex education through a doctor and explain the importance of keeping one's body clean.
- **3.** Organize events to increase awareness and eliminate superstitions.
- **4.** Prepare a group of leaders from amongst the regular students.
- **5.** Along with the group of regular students, visit the houses of irregular students to motivate them to come to school.
- **6.** Raise money from the community to organize field trips for students.
- **7.** Use field trips as an incentive for students to come regularly.
- **8.** Monitor students' attendance to evaluate effectiveness of measures taken.

## Spreading awareness amongst the community about girls education and increasing enrolment

#### Innovation developed by: Kanti Parmar

To increase enrolment and regularity of girl students in tribal areas, focus on building a strong rapport with parents and convincing them of the value of education.

- **1.** Contact parents and speak to them about the importance of sending girls to school.
- **2.** Prepare a list of reluctant parents and try to convince them through multiple visits.
- 3. Make visits to convince parents to enrol their daughters and to send them regularly to school.
- **4.** For parents not agreeing due to financial reasons, bear the money for their daughters' expenses on notebooks, pens etc
- **5.** Hold regular meetings with villagers to reinforce the importance of girls education and the various schemes offered by the government for their education.

"In particular, for girls and children from underprivileged social groups, schools and classrooms should be spaces for discussing processes of decision-making, for questioning the basis of their decisions, and for making informed choices."- NCF

# Helping children with chronic illness pursue education.

#### **Innovation developed by: Ilaben Thaker**

In order to help children with chronic illnesses (e.g. Thalassemia) to pursue education without major hindrance, following activities/processes can be implemented;

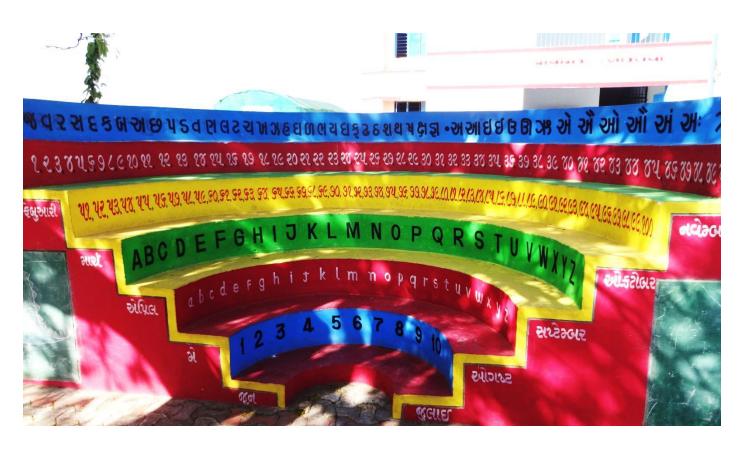
- **1.** Continuously provide personal care and motivation to such children.
- **2.** Develop rapport with the parents of such children to keep their spirit up.
- **3.** Consult a teacher who has specialized in Children With Special Needs (CWSN) and if required also consult some expert to get guidance.
- **4.** Develop a definite plan of action for such children. Learn about each illness in as much detail as possible so that a child or his/her parents can be helped in their hour of need.
- **5.** Discuss with the parents about the various activities/processes they can undertake at home and what all precautions they need to take.
- 6. If treatment is expensive and quality treatment is not available in government dispensaries/ hospitals, look for alternative help. If parents are willing, search for donors or NGOs that agree to give a commitment for bearing the long-term treatment expenditure.
- Keep that donor(s) informed about the progress of the child – health-wise as well as study-wise.
- Involve such donor(s) in school activities, where the kid(s) that they are sponsoring are involved.
- **9.** Organize a small function at school level to felicitate donor(s).

The process is helpful to those children who are suffering from chronic illness and/or suffering from illness whose treatments involve heavy monetary expenditure, which is difficult for their parents to bear. It helps in moving closer to one of the major goals of RTE, which puts emphasis on "Education for all."

The process can be expanded to find out such help for:

• Children with other physical challenges.

"Teaching and learning processes in the classroom should be planned to respond to the diverse needs of students. Teachers can explore positive strategies for providing education to all children, including those perceived as having disabilities."- NCF



# School-Infrastructure

### Creating 'learning spaces' in the classroom: Enhancing the learning environment

#### Innovation developed by: Mukeshkumar Lathiya

To enhance students' cognitive development, **make the classroom child-friendly and conducive for learning by dividing the classroom in multiple learning spaces**.

- 1. Set up a library corner in the classroom where students can read books freely.
- 2. Put up a notice board that has information about upcoming tests, birthdays, news and interesting facts.
- 3. Create a space to put student records, group projects, and weekly evaluations.
- 4. Create subject-based corners in the classroom such as bank corner, post corner, health centre, science corner etc. Keep charts and information related to that particular subject in the subject corner.
- 5. Attach a nameplate with the name of the student to each desk. Also, keep a pen-stand on each desk

A child-friendly classroom with easy access to different sources of knowledge encourages constructivism and higher-order thinking. The concept of dividing the classroom into spaces where different kinds of learning can take place results in a more conducive environment for education.

#### Innovation to overcome water scarcity

#### Innovation developed by: Babubhai Mor

- 1. Raise funds from donors and organisations.
- 2. Involve parents in contributing 10% of the funds required.
- 3. Dig a 12 feet deep pit in a pond near school.
- 4. Dig a 20 feet deep well in the school compound.
- 5. Create a filtering chamber in the pond.
- 6. Put a plastic pipe in the chamber and connect it to the well.
- 7. Cover the chamber with a coating of small pebbles, stones and sand on top.
- 8. Once water accumulates in the well, put a submersible motor to pull the water up.
- 9. Set up a Sintex tank for water storage.
- 10. Allow students and villagers to use the water in the Sintex tank for their everyday needs.



Well created to overcome water scarcity



**Child-friendly classroom** 

#### **Teachers as Transformers: Innovations from Gujarat's State Schools**

# Activity-based learning: Creation of a learning space outside school

#### Innovation developed by: Girish Prajapati

To enable activity-based learning in the face of space constraints in the classroom, create **an activity corner in a space outside school.** 

- 1. Identify a space outside but close to school that can be used as an activity corner.
- 2. Involve the community in cleaning the identified space.
- 3. Involve the girl students and women of the village in transforming the floor of the space with the use of wet soil, clay and rangoli colours and traditional patterns.
- 4. Put up a slogan about reading to encourage students to read.
- 5. Next to the slogan, put up paintings drawn by children.
- 6. Cut up old plastic cans and use them as containers for books.
- 7. Keep different level books in the plastic cans.
- 8. Arrange a space in the activity corner for students to play carom and chess.
- 9. Conduct activities related to the curriculum in the activity corner. This can include experiments, creation of models, etc.

Creation of a space for activity-based learning outside school develops creative thinking as well as a spirit of enquiry amongst students. It also questions the notion that learning can happen only within the classroom by creating a non-formal school near the formal school. This concept can be extended to other areas of the village which can be used as sites of learning for instance, a nearby forest, wetland, lake, etc.



Non-formal space for learning

"When children are asked about the kinds of spaces they like, very often they want to be in a place that is colourful, friendly and peaceful, with lots of open space offering with small nooks and corners, animals, plants, flowers, trees and toys. "- NCF

### Segmentation of the classroom into subject-based corners

#### Innovation developed by: Sangeeta Khumaan

To provide opportunities for students to learn independently as well as in groups, **create subject corners in the classroom and keep relevant learning materials for the students to use on their own.** 

- **1.** Set up subject corners in class. Have corners for Maths-Science, Social Science and Languages.
- 2. Put up shelves for each subject corner and put materials corresponding to each subject in this corner.
- 3. For the Math-Science corner, use these materials:
  - Cards with formulas written on them
  - Reference books
  - Pictures of shapes pasted in drawing books
  - Relevant information compiled from the internet
- 4. For the Social-Science corner, use these materials:
  - A Physical map of India
  - Different pieces of the Physical map cut together such as rivers, states etc.
  - Guide students to match the piece with the actual map to understand their location
  - Newspaper clippings of natural disasters
- 5. For the language corner, use these materials:
  - Word cards, which students can combine to form sentences
  - Newspaper cuttings of poems, articles, stories etc.
- 6. Guide the students to learn independently using materials from this corner when the teacher is not around or when there is a free period and even during recess.

7. Provide differentiated instruction and learning opportunities for students. Teach a weaker group of students and guide higher students to learn independently using the materials in the corners.

Creation of subject corners in the classroom results in the classroom consisting of various learning as opposed to being an independent unit. These separate learning spaces make it easier for subject-wise materials to be arranged together and to offer differential learning opportunities to students.



Subject corners in the class

### **Teachers as Transformers: Innovations from Gujarat's State Schools**

Developing a school from scratch in an urban setting, against the challenge of private schools in vicinity.

#### Innovation developed by: Niketaben Vyas

To develop a school, from the scratch, while building infrastructure and procedures as well as motivating children and their parents for enrolment is a huge challenge. While there is a tough competition of private sector school in close vicinity, many times, changing perception of the children and parents in particular requires lots of hard and committed work and perseverance. While there is no blue-print on how these challenges can be overcome, below are few steps which can be of help;

- **1.** Prepare a plan for school development. Take the help of colleagues and if possible, some experts (BRCC, CRCC).
- 2. If there is any nuisance being created by community living in surrounding areas, stop them. Take the help of legal procedures, if needed (i.e. informing police in case required).
- **3.** Create a definite plan to undertake enrolment drive, make door-to-door visits to community, inquiring about children of school going age and persuading them to get enrolled in government school, by elaborating on various benefits being rendered by the government.
- **4.** If there are children in the community, who have dropped out but are still of school going age, get them enrolled in STP classes.
- **5.** Prepare a list of goods, furniture, equipments required and get it from school development grant and if that is not possible, chart out a plan for resource mobilization and undertake a resource mobilization drive.
- 6. Spend time together with colleagues and develop lesson delivery plan to complete the syllabus in time. Prepare a list of activities and TLMs required for this purpose. If TLM is required to be prepared, do it.
- Organize meetings with parents on a regular basis, telling them about the progress of their children and also the future course of action. Also asks for them if any support is required.

8. Organize various extracurricular activities for children and involve them in creative work. If possible organize the exhibition of their work once or twice during the year and invite their parents.

This process is useful in attracting those children to will be useful to attract children to school, who otherwise would be left out of formal schooling, because of being unable to afford to schooling. This also will help in establishing and strengthening schoolcommunity relationship, as emotional bond will keep them attached to the school.

# Developing school building through resource mobilization.

#### Innovation developed by: Chandubhai Ahir.

Enough grants are provided under SSA, for school infrastructure development. However, there are some cases where extra resources are required to develop school infrastructure, beyond what is given and developed through SSA grant. Following process can help in getting enough resources and establishing school through mobilizing resources from external sources;

- 1. Identify the requirement of infrastructure, in terms of extra rooms or additional furniture etc.
- 2. Prepare a priority wise list of things to be done.
- 3. Identify potential donors, in surrounding area, where school is located; the list may include
  - **a.** Past students who studied in the same school and are now economically well off.
  - **b.** Some philanthropic industrialist of the same or surrounding village
  - **c.** If the village is in vicinity of some industrialist belt, then some corporate house can also be identified for support.
  - **d.** Local politician MLA or MP.
- **4.** Prepare a proper proposal for support required along with the development vision and plan.
- **5.** Invite such potential donors to visit the school and show them positive learning outcomes of the school.
- **6.** Organize a culture programme to felicitate the donors, who commit to support the school.
- **7.** Once financial support is available, identify cost effective ways to get optimum results of the money being spent.

- 8. Keep the transactions of the money received and spent extremely transparent. Sarpanch (head of the village) and/or other village leaders or some parents must be actively involved in the entire process.
- **9.** Once the result is achieved, for which the support or funding was provided, organize a meeting or function to share it with donors (if money is received for building rooms or erecting other facilities in the school, invite donors to have a look at the finished work)
- **10.** Organize a formal function, with involvement of Sarpanch and other village leaders and parents to felicitate the donor and honour them in the presence of the village.
- **11.** Keep immediate superiors like CRC Coordinator, BRC Coordinator, Education Inspector and if possible even District Primary Education Officer, in the loop during the entire process and take necessary support wherever required.

This kind of innovations helps to improve the school infrastructure and provide children with additional facilities, which might not be made available with the routine SSA Grant. The better ambiance and facilities will definitely attract children to school and eventually help in improving regular attendance and thereby learning outcomes.



# DIET Lecturers, BRCs, CRCs and Principals

### Distance-mode of learning to develop technological competencies amongst teachers

#### Innovation developed by: Ketan Thaker

To develop technological competencies amongst teachers, **use the distance mode of training teachers**.

- 1. Invite one teacher from each school in the cluster for a training program.
- 2. CRC co-ordinator and Taluka's computer specialists to train the teachers.
- 3. Arrange for one computer for each teacher to practice on.
- 4. Teach them the given skills:
  - Emailing
  - Connecting to the internet
  - Scanning
  - Connecting the mobile and the computer
  - Blog creation
- 5. At the end of the session, create email accounts for all teachers.
- 6. Mail all important circulars, educational resources directly to teachers.
- 7. Evaluate teachers based on replies to emails and on use of technology for teaching in the classroom.



Training on using technology

## Provision of online resources to teachers for professional development and for effective teaching in the classroom

#### Innovation developed by: Lakhabhai Chundavadra

To provide various resources to teachers in the entire block on an ongoing basis, set up a website to communicate important announcements as well as to share various educational resources

- 1. Blog created using Google Blogger.
- 2. Information available on the blog
  - Important circulars of meetings and other announcements
  - BRC and CRC level training materials
  - Photographs of events
  - E-copies of different magazines
  - Names of different plants in the BRC garden and their medicinal uses
  - Information about different subjects and materials to enable teachers to set up subject corners in their school
  - List of educational websites and other resources for teachers to use to teach effectively in the classroom
  - List of websites that provide basic instructions on learning computers

The virtual sharing of educational resources enables greater reach and also builds up technological competencies in teachers, which is a crucial 21<sup>st</sup> century skill.



Educational resources shared online

## Use of modules and application-based learning to develop communication skills amongst teachers

#### Innovation developed by: Rohit Raval

To develop communication skills in English amongst teachers, **prepare a comprehensive training module, containing various activities.** 

- **1.** Communicate with teachers in English wherever possible.
- **2.** Give English reference material to teachers, including audio-visual materials.
- **3.** Set a time-frame for teachers to go through the materials.
- **4.** Conduct training programs on integrating English into the daily routine of school.

To develop English communication skills amongst students, **integrate English into the daily routine** 

- 1. Say English prayers and Pledge twice a week.
- 2. Teach students English words connected to their everyday life.
- 3. Teach students the conversation structure using the 5 question words.
- 4. Encourage students to speak with each other in English. Allocate time in the English period for students to have conversations with each other.
- 5. Make students listen to audio/videos in English.
- 6. Evaluate students through:
  - Observing fluency in everyday conversations
  - Projects which require use of English

This method, which encourages use of English in everyday situations, develops life-skills through application-based learning. It supplements the new focus on English skills that is being promoted by the government. It can be enriched with the addition of English language newspapers or magazines, if available in the town.

### Providing professional development opportunities to teachers

#### Innovation developed by: Kedar Jayant Rana

To develop a culture of learning in the school, **focus on providing professional development opportunities to teachers.** 

- Organize the celebration of different days such as Hindi day, Quit Tobacco day etc., at the Cluster level, with the help of the teachers.
- 2. Organize exposure visits for teachers.
- 3. Arrange for books from Universities, libraries and other sources for teachers.
- 4. Provide opportunities for teachers to read the books that have been procured.

Professional development of teachers will lead to increased motivation as well as increased effectiveness of teaching in the classrooms, eventually leading to better learning outcomes for students.

## Developing language proficiency in teacher trainees

#### Innovation developed by: Dr. J.B. Joshi

To develop language proficiency in teacher trainees, analyse their areas of improvement and organize workshop targeted at these areas.

- **1.** Take a written test of Hindi and Gujarati to gauge the language proficiency of teacher trainees.
- **2.** Analyse the areas of improvement for the teacher trainees.
- **3.** Invite teachers who are subject experts in language to hold a workshop for the trainees.
- **4.** In the workshop, provide opportunities for group learning, discussion and presentations.
- **5.** Evaluate learnings from the workshop through a written test for the trainees.

### Improvement in quality of education through involvement of multiple stakeholders

#### Innovation developed by: Sanjaykumar Baldevbhai Patel

Improve the quality of education at the Taluka level by **using data and preparing mechanisms to review and evaluate progress at school, cluster and block levels.** 

- **1.** Use Gunotsav data to find areas of improvement.
- **2.** Based on Gunostav guidelines for school infrastructure and teaching methodologies, prepare a monitoring framework for BRCs and CRCs.
- **3.** Organize an internal Gunostav in the Taluka.
- **4.** Based on both Gunostavs, prepare a list of weak schools.
- **5.** Focus on providing guidance and support to the weak schools identified.
- **6.** Set a target for each school to strive towards.
- **7.** At the BRC level, organize a progress review with CRCs twice a month. Review work done by CRCs and give necessary guidance.
- **8.** Organize meetings for Principals to meet together to reflect on the progress.
- **9.** Give effective guidance focused on improving the quality of education to teachers during training sessions.
- **10.** Set up an effective evaluation system to measure progress of all students from Grades 3-8.
- **11.** Instruct teachers to identify and prepare a list of slow learners.
- **12.** Take extra measures to help slow learners progress.

Equal involvement of stakeholders at different levels is crucial for successful implementation of a plan. Providing opportunities for CRCs and Principals to meet within their groups to reflect on group goals is important in creating a culture of collaboration and ownership for a shared goal.



Meeting of different stakeholders

# Developing dictionary of local dialect to facilitate education process.

#### Innovation developed by: Ketan Vyas

In order to overcome the problem of language barrier, develop a dictionary containing words, verbs, phrases etc. used by children in their day to day conversation along with their Gujarati and English meaning. Follow below written process for this;

- Prepare a team comprising of local teachers (who are well versed with the local dialect), selected parents, village leaders (Sarpanch & other social, religious leaders who are conversant with the culture and tradition of a particular ethnic group)
- **2.** Involve them in the process of collecting the words, phrases being used by the particular group in that geographic region.
- **3.** Prepare a compilation of this collection, in an alphabetical or other logical order, along with their Gujarati and English meanings/synonyms.
- **4.** Circulate it amongst people who are involved in the process, to check for accuracy.
- 5. Involve all the teachers of the clusters/block where this language/dialect is being spoken to familiarize and train them in speaking the dialect in correct pronunciation (take the help of local teacher who is well-versed with the language or one of those leaders who was involved in the compilation process).
- **6.** Initiate the use of this dialect in school during assembly, mass drill and other such gatherings.
- 7. Recommend to teachers to use only the local dialect while talking to lower grade children to make them feel comfortable in the school.
- **8.** Undertake regular impact evaluation of improvement of the performance of the children in their tests and other evaluation.

This process helps in establishing and/strengthening the rapport with the children, who speak the language in their domestic set-ups and are not very familiar with the language being used for education (in this case Gujarati). It also helps children to develop a gradual understanding of Gujarati (or other vernacular language being used generally in the region for education).

### **Student-oriented learning environment: Feedback from students to improve school**

Innovation developed by: Mahesh Makwana

Create an environment that is conducive for learning and student-centric through **taking feedback from students on their opinion of school** 

- **1.** In the prayer assembly, tell students about the importance of giving feedback. Tell students to give feedback on different aspects of school.
- 2. Tell students about the different ways in which they can give feedback
  - In the prayer assembly publicly
  - Through meeting the Principal in the office
  - Through writing anonymous notes
- Read through the feedback and take decisions, based on suggestions and recommendations given by the students.



# Database of Innovative teachers



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