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વિશિષ્ટ જરૂરિયાત ધરાવતા વ્યક્તિઓ માટે માહિતી અને ગ્રંથાલય સેવાઓ

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- **પ્રસ્તાવના :**

જ્ઞાન અને માહિતી દ્વારા જ વ્યક્તિનો તથા રાષ્ટ્રનો વિકાસ શક્ય બને છે. જ્ઞાનપ્રાપ્તિ માટેનું શ્રેષ્ઠ સ્થાન ગ્રંથાલય છે. ગ્રંથાલય એ પુસ્તકો તથા માહિતીપ્રદ સામગ્રીનો સુવ્યવસ્થિત સંગ્રહ છે. જે વિશ્વના સમસ્ત જ્ઞાન અથવા તેના કોઈ એક ભાગ સાથે સંબંધિત હોય છે. ગ્રંથાલય દરેક માટે પણ હોઈ શકે તથા કોઈ વિશેષ સમુદાય માટે પણ હોઈ શકે. આ સંદર્ભમાં વિચારતા પ્રસ્તુત અભ્યાસમાં વિશિષ્ટ જરૂરિયાત ધરાવતા લોકો માટે ગ્રંથાલયની માહિતી તથા સેવાઓની વિસ્તૃત રજૂઆત આ મુજબ છે.

- **વિશિષ્ટ ગ્રંથાલય - વ્યાખ્યા :**

ઔદ્યોગિક, વૈજ્ઞાનિક તથા ટેકનોલોજીમાં થયેલી પ્રગતિના ફળસ્વરૂપે ૨૦મી સદીના પ્રારંભમાં વિશિષ્ટ ગ્રંથાલયો અસ્તિત્વમાં આવ્યા. સાર્વજનિક તથા શૈક્ષણિક ગ્રંથાલયો ફક્ત સામાન્ય વાચકો તથા વિદ્યાર્થીઓ અને અધ્યાપકોની જરૂરિયાતો પૂરી કરી શકે છે. જ્યારે વિશિષ્ટ ગ્રંથાલયો વિશિષ્ટ વાચકોને વિશિષ્ટ પ્રકારની સેવાઓ તથા માહિતીની જરૂરિયાત પૂરી કરે છે..

“વિશિષ્ટ ગ્રંથાલય એટલે એક એવું ગ્રંથાલય કે જમાં - એક વિશેષ વિષય અને તે વિષયને સંબંધિત સાહિત્ય હોય. વિશિષ્ટ ગ્રંથાલય વિશિષ્ટ પ્રકારના વાચકો માટે હોય છે અને તે કોઈ વિશિષ્ટ સંસ્થાની અંદર જ હોય છે.”



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“એક વિશિષ્ટ ગ્રંથાલય એ ગ્રંથાલય હોય છે કે વ્યાપારી સંસ્થા, ખાનગી એકમ, સંઘ, સરકારી એજન્સી, અન્ય વિશિષ્ટ રસ ધરાવતા સમૂહ કે એજન્સી દ્વારા પોતાના સભાસદો અથવા કર્મચારીઓની માહિતી વિષયક માંગ પૂરી કરવા માટે સ્થાપિત કરવામાં આવે છે.”

વિશિષ્ટ ગ્રંથાલયનું મુખ્ય કાર્ય માહિતી એકત્રીકરણ કરીને પુનઃપ્રાપ્ત કરી આપી, માહિતીનું પ્રસારણ તથા સંરક્ષણ કરવાનું છે. સંશોધન કરતી સંસ્થાઓના ગ્રંથાલયોને પણ વિશિષ્ટ ગ્રંથાલય કહી શકાય છે. ડા.ત. ઈન્ડિયન ઈન્ટીટ્યૂટ ઓફ સાયન્સ લાયબ્રેરી, બેંગલોર.

● **વિશિષ્ટ ગ્રંથાલયના મુખ્ય ત્રણ તત્વો :**

વિશિષ્ટ ગ્રંથાલયના મુખ્ય ત્રણ તત્વો આ મુજબ છે. (૧) વિશિષ્ટ વાચક / ઉપભોક્તા (૨) વિશિષ્ટ સંગ્રહ અને (૩) ગ્રંથાલયનું વિશિષ્ટ સ્થાન.

● **વિશિષ્ટ ગ્રંથાલયની વિશેષતાઓ :**

વિશિષ્ટ ગ્રંથાલયની વિશેષતાઓ આ મુજબ છે.

- **વિશિષ્ટ વાંચન સામગ્રી :** ગ્રંથાલયની વાચન સામગ્રી કોઈ વિશિષ્ટ વિષયક્ષેત્રને લગતી હોય છે. જેમાં કોઈ એક વિષય કે વિષય સમૂહોના સાહિત્યનો સંગ્રહ કરવામાં આવે છે. ક્યારેક સામગ્રીના સ્વરૂપના આધારે વિશિષ્ટ ગ્રંથાલય હોય છે. જેમ કે : મેપ ગ્રંથાલય, ફિલ્મ ગ્રંથાલય.
- **વિશિષ્ટ ઉપભોક્તા / વાચક :** તેના વાચક વિશિષ્ટ પ્રકારના હોય છે. આ ગ્રંથાલયો બધા માટે જ નહીં પરંતુ વિશિષ્ટ ઉપભોક્તાઓ માટે હોય છે. ઉ.દા.વેપારિક સંસ્થા સાથે જોડાયેલ ગ્રંથાલયના ઉપભોક્તા.
- **સંદર્ભ તથા સૂચના સેવા :** આ ગ્રંથાલયોની વિશિષ્ટ અને વ્યાવહારિક સંદર્ભસેવા મુખ્ય સેવા છે. આ સેવા તેમને અન્ય ગ્રંથાલયોથી અલગ તારવે છે. આથી આવા ગ્રંથાલયોને માહિતી બ્યૂરો પણ કહે છે.



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- ગ્રંથાલયનું સ્થાન : આવા ગ્રંથાલયો વિશિષ્ટ સ્થાન પર આવેલા હોય છે, એટલે કે પોતાની સંસ્થાના પ્રાંગણમાં જ આવેલા હોય છે. ઉ.દા. સરકારી વિભાગીય બ્યૂરો, શ્રમ મંત્રાલય ગ્રંથાલય, હોસ્પિટલ ગ્રંથાલયો, ધાર્મિક સંસ્થાઓના ગ્રંથાલયો.

- **વિશિષ્ટ ગ્રંથાલયના કાર્યો :**

વિશિષ્ટ ગ્રંથાલયના કાર્યો અને સેવાઓ પોતાની સંસ્થાના ઉદ્દેશો પર આધારિત હોય છે. આ સંદર્ભમાં વિશિષ્ટ ગ્રંથાલયના કાર્યો આ મુજબ છે.

- પ્રલેખો તથા આધાર-સામગ્રીની પસંદગી અને સંગ્રહ : કોઈ પણ વિશિષ્ટ ગ્રંથાલયની સેવાનો આધાર ગ્રંથાલયના સંગ્રહ પર હોય છે. એક વિશિષ્ટ ગ્રંથાલય પોતાના મર્યાદિત નાંણા ભંડોળમાંથી ઉપભોક્તાઓની જરૂરિયાતોને અનુરૂપ પ્રલેખો, આધાર-સામગ્રીની પસંદગી અને સંગ્રહ કરે છે.
- પ્રલેખોનું પ્રસ્તુતીકરણ : આ પ્રકારના ગ્રંથાલયનું મુખ્ય કાર્ય પ્રત્યેક પ્રલેખ તથા માહિતીનું વર્ગીકરણ અને સૂચિકરણ કરવાનું છે.
- સંગ્રહ : પ્રલેખોનું પ્રસ્તુતીકરણ કર્યા પછી તેને વ્યવસ્થિત રીતે ગોઠવવામાં આવે છે. આ પ્રલેખો વર્ગીકરણ પ્રમાણે ગોઠવાય તે જરૂરી છે.
- પ્રલેખો તથા માહિતીની પુનઃપ્રાપ્તિ : આ ગ્રંથાલયનું કાર્ય સૂચીકરણ, વર્ગીકરણ અને અનુક્રમણિકાની મદદથી ઉપભોક્તાઓને જરૂરિયાત પ્રમાણે પ્રલેખો તથા માહિતી પ્રદાન કરવાનું છે.
- સંદર્ભ સેવા : વિશિષ્ટ ગ્રંથાલયોમાં તત્કાલીન તથા દીર્ઘકાલીન સંદર્ભસેવાઓ ઉપભોક્તાઓને આપવામાં આવે છે.



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- નવી માહિતી ઉપલબ્ધ કરાવવી : આવા ગ્રંથાલયો પોતાના વાચકોને નવી માહિતી આપવા માટે ઉપભોક્તાઓનું સર્વેક્ષણ કરે છે અને વધુ માંગ ધરાવનાર માહિતીનું સંકલન કરીને ઉપભોક્તાને તે માહિતી પ્રદાન કરે છે.
- વિશિષ્ટ જરૂરિયાત ધરાવતા લોકો માટે વિશિષ્ટ ગ્રંથાલયની સેવાઓ :
 - વિશિષ્ટ ગ્રંથાલયની સેવાઓ નીચે મુજબ છે.
 - પ્રલેખોનું આદાન-પ્રદાન : ગ્રંથાલયની બહાર જઈને ઉપયોગ કરવા માટે ઉપભોક્તાને પ્રલેખ આપવામાં આવે છે તથા પરત પણ લેવામાં આવે છે. આમ આપ-લે સેવા (ઈસ્યુ-રિટર્ન સેવા) આપવામાં આવે છે.
 - આંતર ગ્રંથાલય લોન સેવા : જ્યારે કોઈ પ્રલેખ પોતાના ગ્રંથાલયમાં ન હોય ત્યારે અન્ય ગ્રંથાલયમાંથી મંગાવીને ઉપભોક્તાને આપવામાં આવે છે તથા અન્ય ગ્રંથાલયને જરૂરી પ્રલેખ પોતાના ગ્રંથાલયમાંથી લોન દ્વારા આપવામાં આવે છે.
 - સામયિક પ્રકાશનોનું આદાન-પ્રદાન : સામયિકોના નવા અંક ગ્રંથાલય પોતાના ઉપભોક્તાને આપશે તે વાંચીને બીજા ઉપભોક્તાને આપશે. આ રીતે સામયિકોનું આદાન-પ્રદાન થશે.
 - સંદર્ભ સેવા : આ ગ્રંથાલયોમાં તત્કાલીન તથા દીર્ઘકાલીન એમ બંને પ્રકારની સંદર્ભ સેવા આપવામાં આવે છે.
 - વ્યક્તિગત, પત્ર દ્વારા અથવા ફોન પરના પ્રશ્નોના જવાબ આપવા : આવા ગ્રંથાલયોમાં ઉપભોક્તાઓના વ્યક્તિગત પ્રશ્નો, ફોન પર પૂછેલા પ્રશ્નો કે પત્ર વ્યવહાર દ્વારા પૂછેલા પ્રશ્નોના ઉત્તર આપવામાં આવે છે.



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- અઘતન અવબોધન સેવા : આ પ્રકારની માહિતી ગ્રંથાલય ઉપભોક્તાઓને સામયિકોની મદદથી પૂરી પાડે છે.
 - પસંદગીયુક્ત માહિતી સેવા : આ પ્રકારની સેવા વ્યક્તિગત છે. જે વાચકોની અભિરૂચિ, સંશોધનના વિષય વગેરેને ધ્યાનમાં રાખીને આપવામાં આવે છે.
 - નિર્દેશ સેવા : આ પ્રકારની સેવામાં ઉપભોક્તાને જરૂરી માહિતી ક્યાંથી મળશે તેનો નિર્દેશ કરવામાં આવે છે.
 - ગ્રંથસૂચિ નિર્દેશ સેવા : ગ્રંથાલયમાં સંગ્રહિત સાહિત્યનો ઉપયોગ વધારેમાં વધારે પ્રમાણમાં થાય તે માટે ગ્રંથસૂચિઓ બનાવવી જોઈએ તથા આ ગ્રંથસૂચિનો ઉપયોગ કઈ રીતે કરવો તે ઉપભોક્તાને સમજાવવું જોઈએ.
 - અનુવાદ સેવા : ઉપભોક્તાને જરૂરી માહિતી અન્ય ભાષામાં પ્રકાશિત થઈ હોય ત્યારે તેમને અનુવાદ સેવા પણ ઉપલબ્ધ કરાવવી જોઈએ.
 - પ્રતિલિપિકરણ : ઉપભોક્તાને સામયિકનો કોઈ એક લેખ, પ્રલેખ કે તેના કોઈ એક પૃષ્ઠની આવશ્યકતા હોય તો તેને પ્રતિલિપિકરણની સેવા આપવી જોઈએ.
- **સમાપન :**

આમ, વિશિષ્ટ ગ્રંથાલયોમાં વિશિષ્ટ ઉપભોક્તાઓ આવે છે. આવા ગ્રંથાલયો વિશિષ્ટ સ્થાનો પર આવેલા હોય છે તથા તેમના કાર્યો અને સેવાઓ પણ વિશિષ્ટ પ્રકારની હોય છે. જે પ્રત્યેક ઉપભોક્તાને તેમની જરૂરિયાત તથા રસ-રૂચિ મુજબની માહિતી તથા જરૂરી સેવા પૂરી પાડે છે

સંદર્ભસૂચિ :



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- Nirmal Harshad, (2013). *Digital library - Automation*. Jaipur : Vista Publication.
- Sethunath V.S., (2012). *Digital library Systems*. New Delhi : Crescent Publishing Corporation.
- Singh Pankaj, (2014). *Library and Information Technology*. New Delhi : Discovery Publishing House Pvt. Ltd..

गांधी विचारधारा – सत्याग्रह

डॉ. सोनल एन. गुर्जर

आसिस्टन्ट प्रोफेसर,

आकार अध्यापन मंदिर बी.एड्. कोलेज,

ओगणज, अहमदाबाद

➤ प्रस्तावना :

महात्मा गांधी भारत एवं भारतीय स्वतंत्रता आंदोलन के प्रमुख राजनैतिक एवं आध्यात्मिक नेता थे। गांधीजीने विभिन्न पहलुओ जैसे-स्वराज, शिक्षा, श्रम, सफाई, धर्म, ग्रामोद्योग और सत्याग्रह पर अपनी विचारधारा प्रस्तुत की है। अपनी यही विचारधारा के आधार पर उन्होने अपने प्रयोगो को सत्य और अहिंसा के अभ्यास के साथ लागू किया। गांधीजी सत्याग्रह - व्यापक सविनय अवज्ञा के माध्यम से अत्याचार के प्रतिकार के अग्रणी नेता थे। उनकी इस विचारधारा की नींव अहिंसा पर रखी गई थी, जिसने भारत को आजादी दिलाकर पूरी दुनिया में लोगो को नागरिक अधिकारो एवं स्वतंत्रता के प्रति आंदोलन के लिए प्रेरित किया। उनकी सत्याग्रह की विचारधारा को प्रस्तुत अभ्यास में निम्नांकित किया गया है।

➤ सत्याग्रह का अर्थ :

गांधीजीने दक्षिण आफ्रिका में शोषण, अन्याय एवं रंगभेद की नीति के विरुद्ध सत्याग्रह आंदोलन किया था इसमें उन्हे सफलता मिली थी। दक्षिण आफ्रिका से भारत लौटने पर उन्होंने भारतीय आंदोलन के



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वास्तविक स्वरूप को समझा। गांधीजीने आंदोलन के लिये “सत्याग्रह” शब्द का प्रयोग किया। सत्याग्रह शब्द को पहले मगनलाल गांधी ने “सदाग्रह” के नाम से उल्लेखित किया था। गांधीजीने “सदाग्रह” शब्द में परिवर्तन करके उसको “सत्याग्रह” नाम दिया।

“सत्याग्रह” का मूल अर्थ है सत्य के प्रति आग्रह। सत्य को पकड़े रहना और साथ में अहिंसा को मानना। गांधीजी के मतानुसार सत्याग्रह का अर्थ है स्वयं सत्यादि धर्मों के पालन का आग्रह रखना और सत्यादि साधनों के द्वारा हि अंधर्म का विरोध करना। उन्होंने अहिंसा पर अधिक जोर देकर कहा कि अहिंसामय साधन अंधर्म के विरोध का नाम है सत्याग्रह।

वह एसी – प्रतिचार पद्धति है कि जिसमें किसी भी रूप में हिंसा के प्रयोग के लिए स्थान नहीं है। वह एक प्रबल सक्रियता की स्थिति है और एक विशिष्ट जीवन पद्धति है जिसके मूल में एकादश व्रत हैं।

➤ **सत्याग्रह के मूल सिद्धांत :**

गांधीजी के मतानुसार मनुष्य मात्र के हृदयमें सत्य हि सर्वोपरी है और वह सत्याग्रह की बुनियाद है जिसे आप अंतःकरण की आवाज कह सकते हैं। गांधीजी के सत्याग्रह के मूल सिद्धांत निम्नलिखित हैं।

- सच्चा सत्याग्रही वही है जो अपने अंतःकरण की आवाज को सुनता है। गांधीजी के मतानुसार ये आवाज किसी न किसी रूप में सामने प्रगट होती है और बाद में अन्याय का सामना करना और पश्चाताप करना उसका श्रेष्ठ प्रकार है उसी को हृदय परिवर्तन कहते हैं।
- सच्चा सत्याग्रही विरोध करनेवाले लोगों को अपने अंतःकरण की आवाज सुनाता है और सत्य का पक्ष ले कर उनका विरोध भी करता है।
- विरोधी के अंतःकरण को जाग्रत करने का कार्य सत्याग्रही का है।

● **सत्याग्रह के सामान्य लक्षण :**

गांधीजीने सत्याग्रह के सिद्धांत के साथ साथ सत्याग्रह के सामान्य लक्षण पर भी अपने विचार प्रस्तुत किये हैं।

- सत्याग्रह का प्रथम लक्षण है अंधर्म का विरोध सत्य – अहिंसा आदि साधनों से हि किया जा सकता है।



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- अधर्म को मिटाने के लिये धर्मयुक्त उपाय अवश्य होना चाहिये ।
- सत्याग्रह एक ऐसा उपाय है जिसमें सत्याग्रही के सिवा दूसरो को कष्ट उठाना नहीं पडता ।
- सत्याग्रह के फल स्वरूप विरोधी के साथ कटुना नहीं बढती बल्कि घटती है । सत्याग्रह के अंत में दोनो पक्ष मित्र बनते है ।
- सत्याग्रह की उचित विधि न सूझे तब तक सत्याग्रही शांति और धीरज के साथ जनता कि सेवा करता रहेगा और उचित रास्ता मिलने पर उसके अनुसार आचरण करेगा ।
- सच्चे सत्याग्रही का लक्षण यहि है कि अपना पथ स्पष्ट दिखाई देने पर वह अकेला भी चलने के लिये तैयार हो जाता है ।
- सच्चा सत्याग्रही कितनी भी कठिनाईया आने पर भी कभी पीछे हठ नहीं करता परंतु आगे बढता रहेता है ।

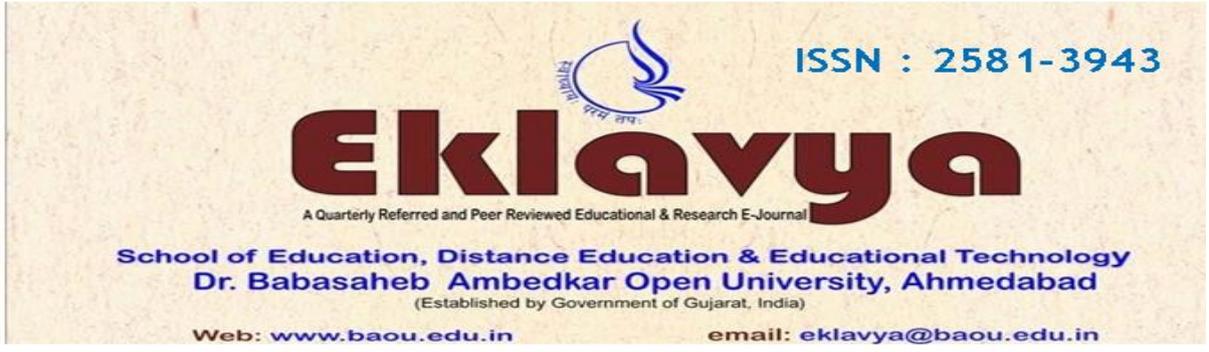
सत्याग्रह के प्रकार :

गांधीजी के मतानुसार सत्याग्रह के भिन्न भिन्न प्रकार हो सकते है । जैसे कि - अधर्म का स्वरूप, उसकी तीव्रता, सत्याग्रही व्यक्ति या समाज कि विशेषताए- इन सब बातो पर सत्याग्रह कि पद्धति, प्रकार और मात्रा का आधार है ।

- गांधीजी के मतानुसार अपने कुटुंब में अन्याय कर्ता के साथ जिन जिन पद्धतियो का अवलंबन किया जाता है वे सब उचित रूप में समाज पर भी लागू होती है ।
- इसमें समजाने-बुझाने से लेकर उपवास, असहयोग, सविनय भंग, उस कुटुंब, समाज, राज्य आदि का त्याग, अपने न्याय अधिकार का शांतिपूर्ण अमल, इन दौरान आते हुए संकटो को प्रसन्नता से सहन करना आदि अनेक प्रकार हो सकते है ।

➤ सत्याग्रही की नियमावलि:

गांधीजी ने २३ फेब्रुआरी १९३० के नवजीवन में सत्याग्रही की नियमावलि दी है । उस नियमावलि के अनुसार -



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- सत्याग्रही किसी पर गुस्सा नहीं करेगा ।
- वह विरोध के गुस्से को सहन करेगा ।
- विरोधी के गुस्से से, मार से या अन्य किसी डर से सत्याग्रही झुकेगा नहीं ।
- अधिकारी सत्याग्रही को पकड़ने आए तो बिना आनाकानी के गिरफ्तार हो जाये ।
- यदि उसने स्वयं कानून तोड़ा हो तो वह अपना अपराध स्वीकार कर ले और सजा मांग ले ।
- सत्याग्रही को यदि जुर्माने कि सजा दी जाये तो वह जुर्माना न दे और न किसी को जुर्माने कि रकम जमा करने दे । जुर्माना वसूल करने के लिये यदि उसके घर से माल - असवाब जप्त हो जाये तो जप्त हो जाने दे क्योंकि जिसने स्वत्व कि रक्षा के लिये कानून तोड़ा है वह तो अपना सर्वस्व अर्पण करने के लिये तैयार रहेगा और इस तरह वह अपने स्वत्व कि हानि न होने देगा ।
- सत्याग्रही जेलमें अपनी सभ्यता और विनय को कभी न छोड़े, जेल के नियमों का पालन करे ।
- जहाँ महत्त्व के सिद्धांत का या स्वाभिमान का प्रश्न हो वही नियम के खिलाफ जाने की प्रवृत्ति रखे। जेलमें सुविधा प्राप्त करने के लिये किसी की खुशामत न करे ।
- जेल के नियमानुसार दिया गया काम पूर्ण करे, यदि काम या काम का समय अस्वास्थ्य या किसी दूसरी वजह से न किया जा सकता हो तो अधिकारी को सूचित करे ।
- डॉक्टरी जांच के समय किसी भी प्रकार कि बिमारी को छूपाना नहीं चाहिए ।
- किसी बात को धार्मिक स्वरूप देकर आग्रही न बने ।
- छिप कर किसी भी प्रकार कि सुविधायें प्राप्त करके स्वास्थ्य रक्षा का प्रयत्न न करे ।
- व्रत नियम आदि का पालन करने के लिए जो कष्ट भूगतना पड़े वह भूगत लेना चाहिए ।
- सत्याग्रही अपमानपूर्वक दिया गया सडा हुआ, कच्चा भोजन न ले और ऐसा भोजन खाने का इनकार कर दे, उसके लिए जो कुछ सजा हो भूगत ले ।
- सत्याग्रह वह उसी अवस्था में करे जब सारी जेल व्यवस्था में सुधार कि आवश्यकता हो ।
- सत्याग्रही जेल के वॉर्डन या वॉचमेन आदि पदों को ग्रहण न करे ।
- छूट के दिन बढ़ाने के लिये लालसा न रखे ।



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- वहीं लडे जहां अक्षम्य, अमानुष व्यवहार या नियम देखा जाये ।

➤ **सत्याग्रह आंदोलन :**

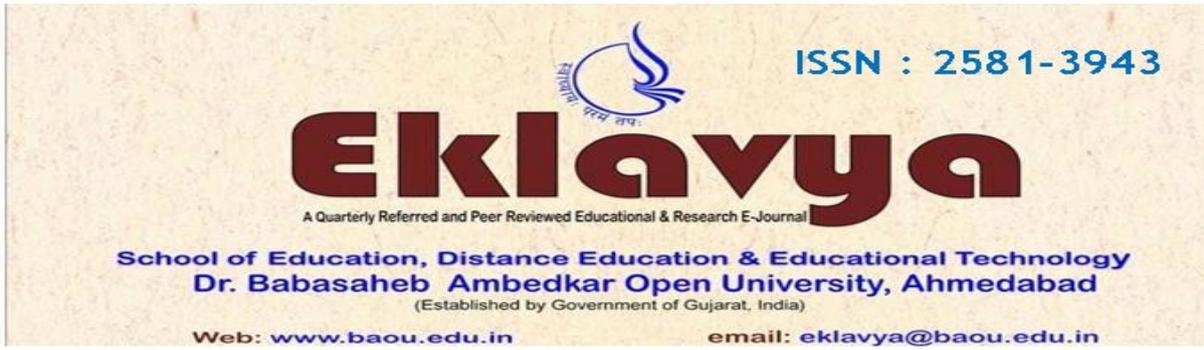
भारत को अंग्रेजों की गुलामी से मुक्त कराने के लिए कई आंदोलन हुए । जिसमें सत्याग्रह आंदोलन का अपना एक विशेष महत्त्व है । भारत में गांधीजी के नेतृत्व में सत्याग्रह आंदोलन के अंतर्गत अनेक कार्यक्रम चलाए गये थे जिसमें प्रमुख है - चंपारण सत्याग्रह, बारडोली सत्याग्रह और खेडा सत्याग्रह । ये सभी आंदोलन भारत की आजादी के प्रति महात्मा गांधीजी के योगदान को परिलक्षित करता है । ये ऐसे आंदोलन हैं जो पूरी तरह से सच्चाई पर कायम हैं और हिंसा का उसमें कोई स्थान नहीं है जो सत्याग्रह की नींव है ।

➤ **समापन :**

गांधीजीकी सत्याग्रह की विचारधारा के अनुसार प्रत्येक व्यक्ति जो सत्य का आग्रही हो, अधर्मका विरोध करता हो, अहिंसा के मार्ग पर चलता हो वो सत्याग्रही है । सत्याग्रह के अपने सिद्धांत, लक्षण एवं नियमावली हैं जिसका पालन हर सत्याग्रही को करना आवश्यक है । सच्चा सत्याग्रही वह है जो खुद कष्ट उठाये लेकिन दूसरों को कष्ट न दे तथा अपने मार्ग पर आगे बढ़ता जाये ।

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Development and Try-out of Assignment Method in Teaching of Social Science Subject

Pravinchandra D. Parmar

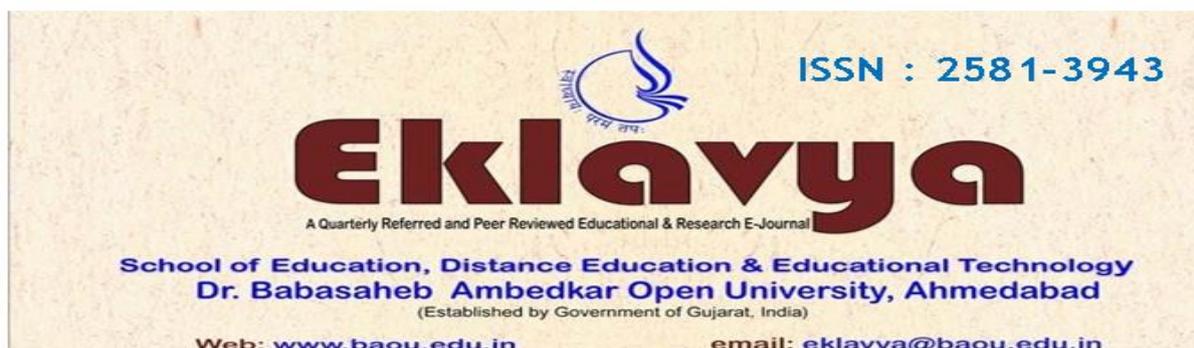
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Introduction

Teacher Centred learning method in the classroom is one of the part of our Educational system from the ancient time. Lecture method is used for completing limited



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syllabus in limited time. But, in this situation, students become passive listeners. Moreover, in country like India, numbers of schools increase day by day due to increasing Educational space with change in social needs. It is quite difficult for teachers to reach to every student. In our country, we find 30 to 70 numbers of students in the classroom. One can not match with individual differences because of large number of students in one classroom. Generally, in our classroom, average students are mostly focused and that's way, some students are left behind in the Education. And reason of it, the negative thinking regarding particular subject is raised in the mind of the students. If we provide proper time, guidance and some reference materials to the slow learners and fast learners, they can learn better in their study. .

In today's time, it is expected that students themselves involve in the learning situation. That's way, to cope up with the changing situation and to keep in mind the psychological principles, one should develop self learning methods for reading to the need of every students in the classroom.

Today, it is necessary to make teaching learning effective, the use of team teaching, assignment method, project method, supervised study method should be increased.

With keeping in mind, students capability, self-learning methods are developed in the field of Education and technology. Among all self-learning methods, some are more effective and some are less effective. Apart from this, when student learn Themselves, the interaction between teacher and students is less. When knowledgeable teacher include his own skills with the students to make learning process more active and effective, students get more progress in the particular subject. That's why, if we want to develop self-learning method in the absence of teacher; we have to keep in mind the students' activeness and readiness for learning.

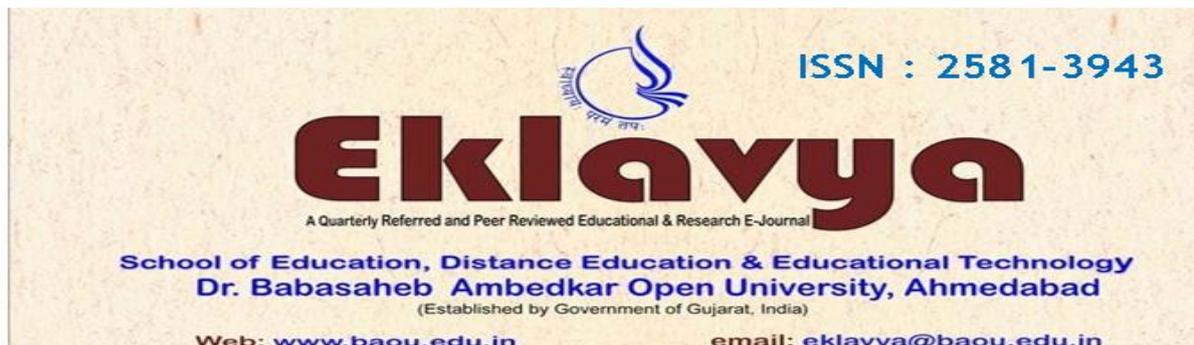
To keep in mind this effect, the investigator had decided to assess one self-learning method, i.e. Supervised study method.

(2) Statement of the Problem :

Development and tryout of Assignment Method in teaching of Social Science

(3) Research Objectives :

Investigator had decided following objectives for present investigation :



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General Objectives :

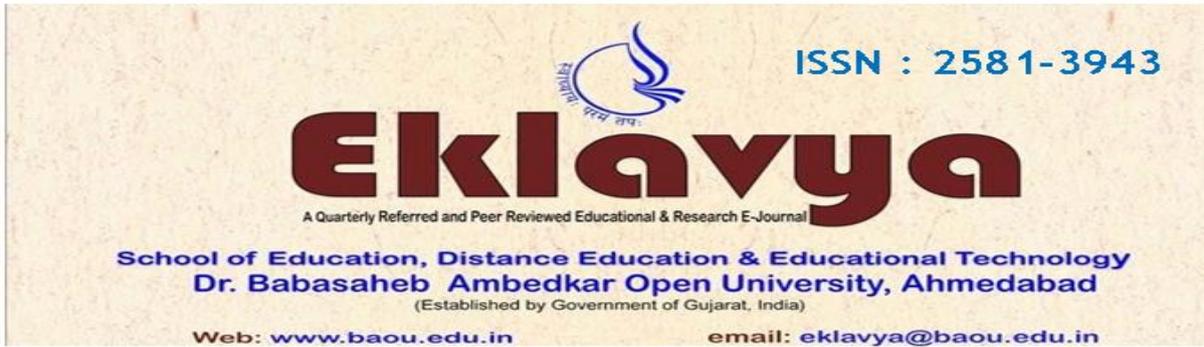
- (1) To develop the Assignment method's material for teaching Social Science subject.
- (2) To develop teacher centred test on unit.
- (3) To assess the effectiveness of Assignment method with reference to students educational progress.
- (4) To gain opinions regarding the programme of Assignment method.

Specific Objectives :

- (1) To compare the mean scores of pre-test and post-test of the students of controlled group with reference to educational progress of students in subject of Social Science.
- (2) To compare the mean scores of pre-test and post-test of students of Experimental group with reference to educational progress in subject of Social Science.
- (3) To compare the mean scores of pre-test of the students of controlled group and Experimental group with reference to Educational progress of students in subject of Social Science.
- (4) To compare the mean scores of post-test of the students of controlled group and Experimental group with reference to Educational progress of students in subject of Social Science.
- (5) To take opinions of students regarding the programme "Assignment method".

(4) Hypotheses of the study :

- (1) There is no significant difference between the mean scores of pre-test and post-test of the students of controlled group with reference to Educational progress of students in subject of Social Science.
- (2) There is no significant difference between the mean scores of pre-test and post-test of the students of Experimental group with reference to Educational progress of students in subject of Social Science.
- (3) There is no significant difference between the mean scores of pre-test of the students of controlled group and Experimental group with reference to Educational progress of the students in subject of Social Science.



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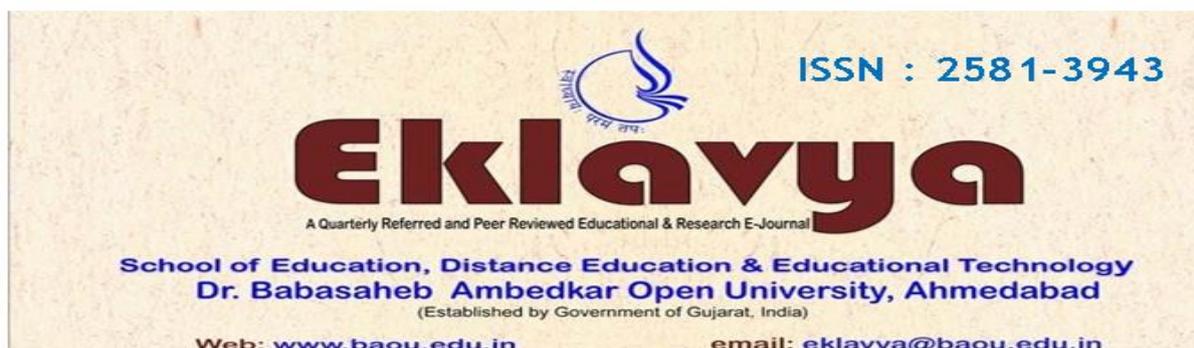
- (4) There is no significant difference between the mean scores of post-test of the students of controlled group and Experimental group with reference to Educational progress of the students in the subject of Social Science.
- (5) There is no significant difference between the opinions of the boy students and girl students of Experimental group regarding the Assignment method.

(5) Importance of the study :

- (1) Knowledge can be lifelong gained through Assignment method.
- (2) Students may take part actively in teaching learning situation.
- (3) Students may learn with self paced and self power.
- (4) Students may know the fundamental things of subject through Assignment method.
- (5) Learning may be useful under the teacher's guidance.
- (6) The atmosphere may become lively by this type of method.
- (7) Students may develop the concept of self-learning, self-dependent and self-confidence.

(6) Delimitation of the Study :

- (1) In this investigation, among all subjects of Standard-IX, only Social Science subject was included.
- (2) In this investigation, among various teaching methods, only Assignment method and traditional method were used.
- (3) In this investigation among all units of subject Social Science of Standard-IX, only one unit named "Fundamentals of rights responsibilities and gudie Principles of rajnity." Was selected for making programme of Assignment method.
- (4) Only Gujarati medium schools of Surat city were the population for the present investigation.



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(7) Sample and Population :

Population : All students of Standard-IX of Gujarat State who were in Gujarati Medium were the population for the present investigation.

Sample : From the population, one school of Surat city was selected for the present study by incidental purposive sampling method.

(8) Research Tools :

(1) Tools for doing experiment :

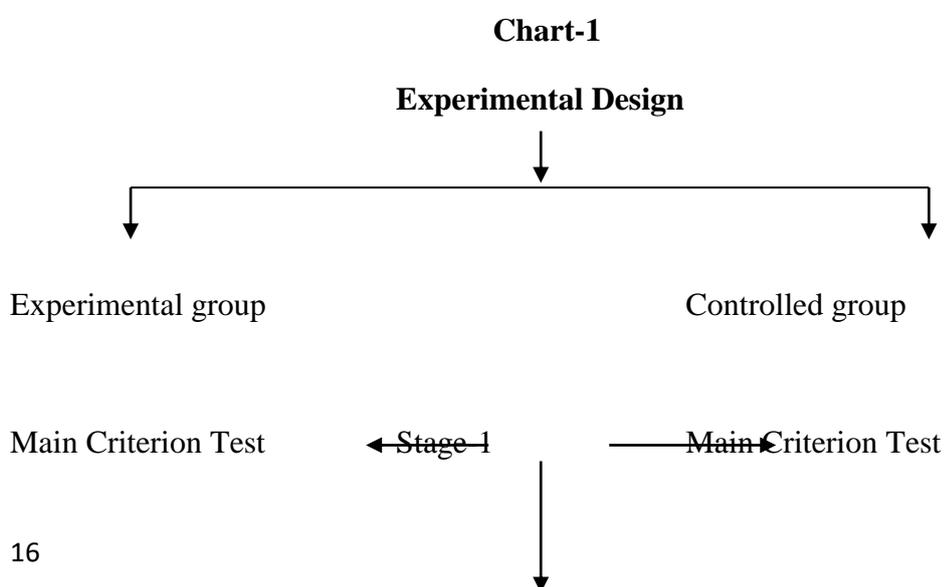
- Assignment sheets for self-learning material.

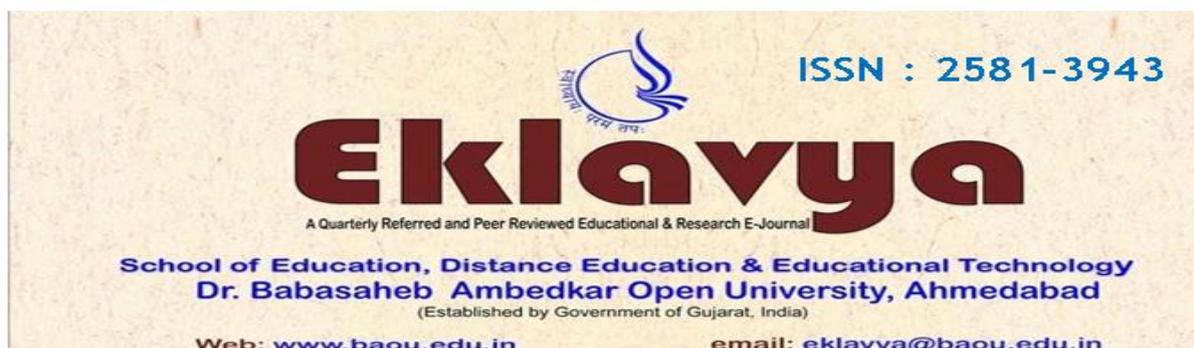
(2) Tools for data collection :

- Criterion test
- Opinionnaire

(9) Experimental Design :

In this present and investigation among various design “Pre-test post-test equivalent group design” was selected. That can be shown in below given chart-1.





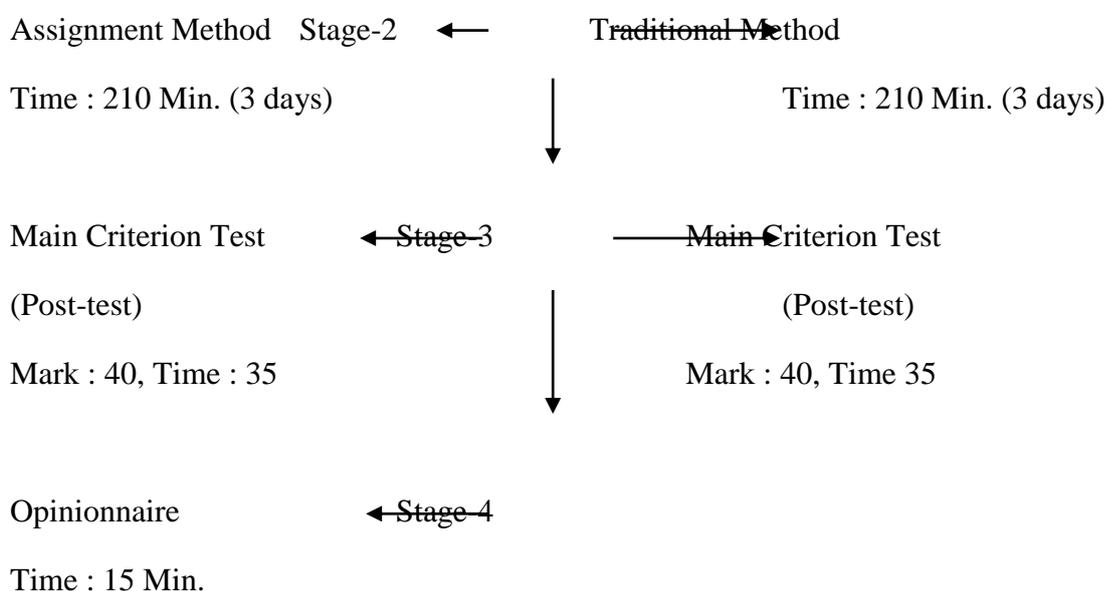
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(Pre-test)

(Pre-test)

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Mark : 40, Time : 35 Min.



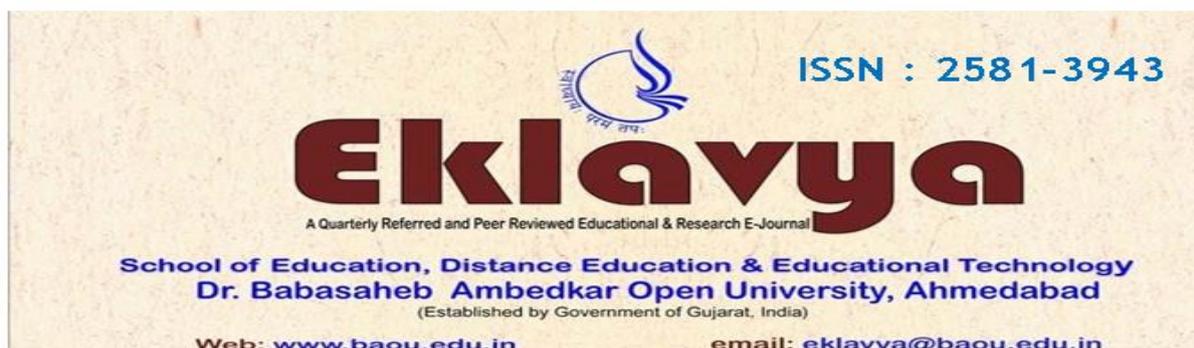
(10) Data Collection :

To give proper direction to the investigation Data Collection is necessary. In the present investigation. P.H.Bachkaniwala school, Surat had been selected for data collection. By taking the permission of principal of this school, 76 students of Standard-IX of this school had been distributed in two groups by pair method, in which 38 students were in controlled group and 38 students were in Experimental group had been divided. Data collection and been done by giving Criterion Test and Opinionnaire to each student.

(11) Analysis of data :

t-test had been performed for testing hypotheses in the present investigation.

(12) Findings :



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- (1) Controlled group's student's pre-test and post-test's mean scores were 18.03 and 25.66, and t-value was 12.04. Gain mean score was higher than 0.01 level. That's why, hypothesis no.1 had been rejected.

Thus, we can say that traditional method had been effected to the student's of controlled group.

- (2) Mean scores of students of pre-test and post-test of Experimental group were 17.92 and 29.11 and t-value was 15.65. Gain mean score was higher than 0.01 level. That's why, hypothesis no.2 had been rejected.

Thus, we can say that Experimental method (Assignment method) has been effected to the students of Experimental group.

- (3) Mean scores of students of post-test of both controlled group and Experimental group were 25.66 and 29.11 and t-value was 2.73. Gain t-value was higher than 0.01 level. That's why, hypothesis no.3 has been rejected.

Thus, we can say that supervised study method was proved to be more effective than traditional method.

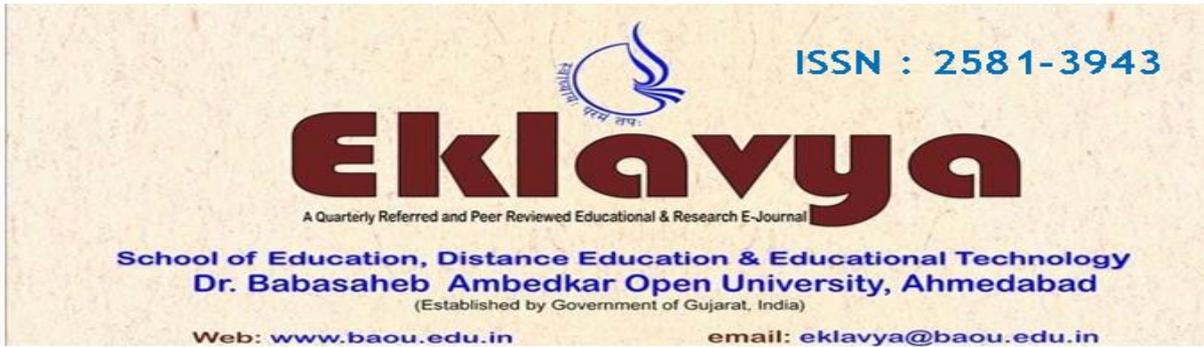
- (4) Mean scores of opinionnaire of girls and boys of Experimental group were 43.00 and 43.42 and t-value was 0.66, which is less than 0.05 level. That's why, hypothesis no.5 has been accepted.

Thus, opinions of girls and boys regarding Assignment method are same. We can not find any difference in opinions between the two.

(13) Educational Implication :

The results of this investigation show some Educational Implication that are given below :

- (1) By Assignment method, we can be increased the interest and activeness of the students for the subject.
- (2) By this method, we can give the deep knowledge of the content to the students.



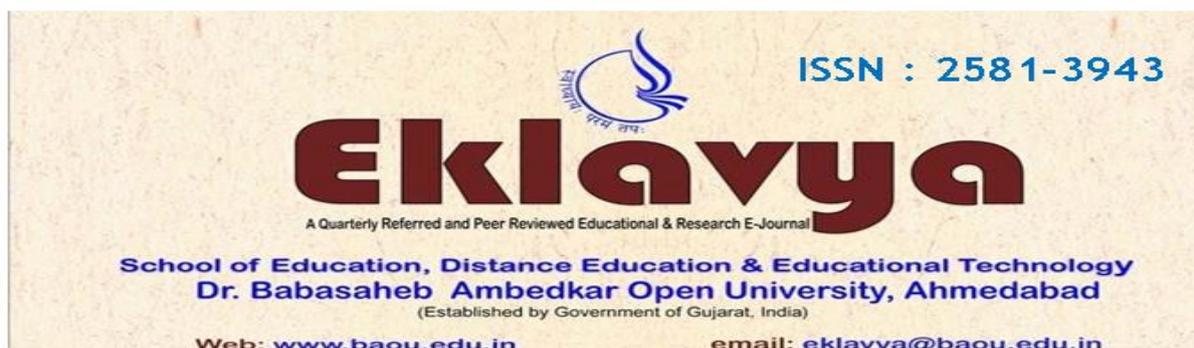
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- (3) This method satisfies the personal differences. That's why every student can learn with his/her own speed. Those who are slow and dull in learning, they can learn the content of the different subject effectively.
- (4) Students can also use the Assignment method by their own way to increase the gained level.
- (5) Because of the explosion of the number of students in the classroom, it is difficult to focus on each student. Second thing, time-limit for completion of decided syllabus, it is quite difficult to focus properly each student's learning. That's why, development of the Assignment method can be made by Experts, N.C.E.R.T., G.C.E.R.T. and DIET, the effectiveness of Education can be increased.

(14) Suggestion for future Research :

Research is one of the never ending process. The present research, started with keep in mind the limited objectives at project level. So, its field is limited researcher believes firmly that to fullfil this limitation, in future in this field, other research will give different new gift of subjects. In this field, the researcher will be give proper guidance to other researcher, with this objective, the researcher give the following suggestion.

- The present Research, on Std.-9 the subject of social science is based on the unit of fundamental rights, duties and the principles of political guidance with the help of Assignment Method, the units of the subject of the Social Science. We can be observed the effectiveness by taking practical work.
- The present research is taken in the subject of Social Science of Std-9. So, that Assignment Method can be develop in different subject of Std-9. So, that we can be observed the effectiveness.
- Assignment Method can be developed on the different subject at primary, secondary and higher secondary level. So, we can be observed the effectiveness.
- The present research includes only the school of Surat city. This type of Assignment Method will be taken to observe the effectiveness in village area and will be taken the comparative study of the effectiveness of Urban School and the village school.
- The present research material is only useful for the Gujarati medium student. So, like this type of material will be made for the students of the medium of Hindi, English and Marathi language and will be observed the effectiveness with the experimental work.



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- The present research work is taken on only limited models. To take more models for this type of Assignment Method and will be observed its effectiveness.
- In the present research, there is observation of development and effectiveness the Assignment Method. But, the effectiveness of Assignment Method can be compared with other methods like slide programme, Tap-transparency, Team-teaching method, Supervised study method.

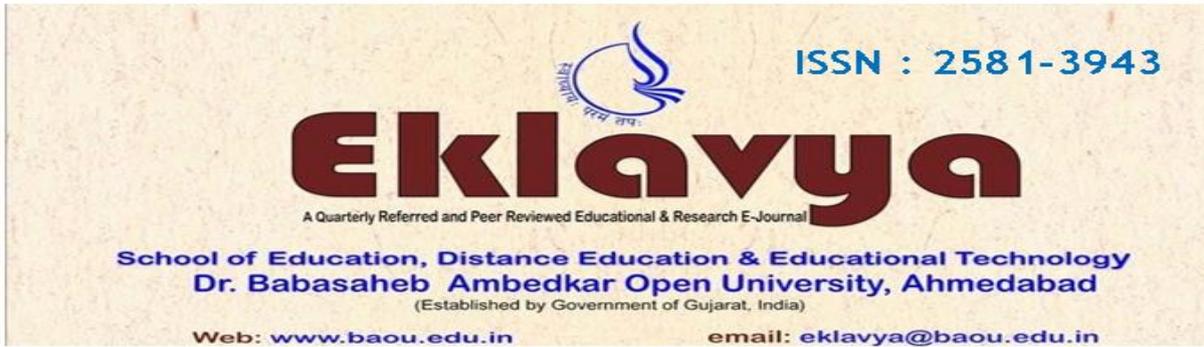
(15) Conclusion :

In the present time, in the school, particularly about higher primary school, the stress level of Educational subject is increasing dangerously. Due to more educational stress about reading, writing and counting of school learning on the small children, the learning process becomes 'boaring'. So, self learning method becomes most desirable needs. So, Assignment Method is most important for getting it.

Thus, the research on the important subject like this, the researcher feels deeply satisfied and if it is proved this research will be helpful for the post researcher, school teachers and management committee and learner will be feel self satisfied.

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Niraj Prakasan.

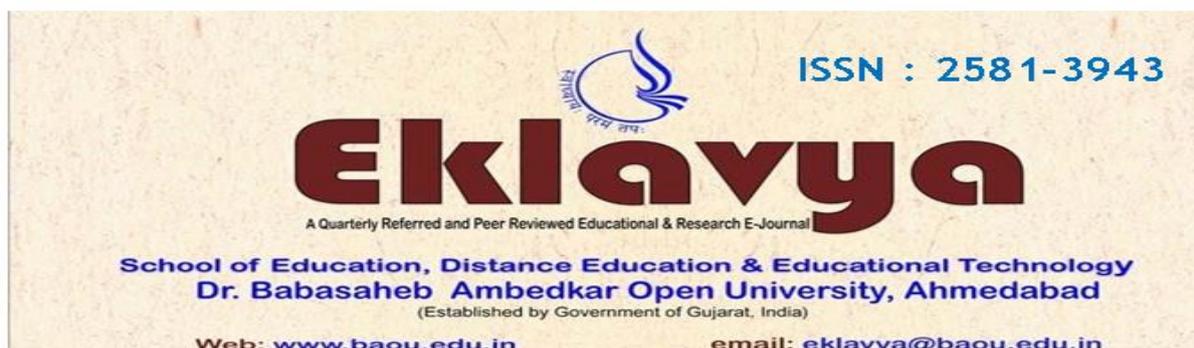
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Role of Agricultural Education in Addressing Food Insecurity in India



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Abstract

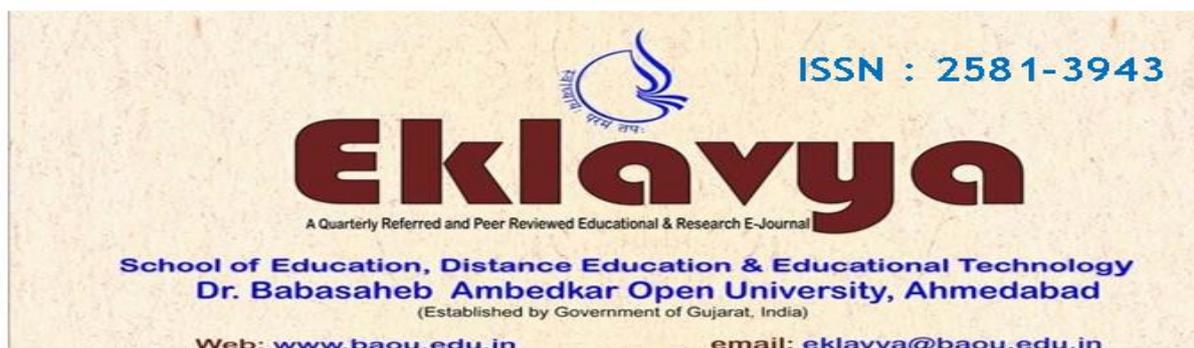
More than eighty percent of India's rural poor rely on agriculture as their primary means of subsistence. The sector barely accounts for 14.4 percent of GDP and 10.2 percent of total exports but employing 52 percent of the workforce [2]. Rural women, who make up thirty percent of the agricultural labor force, are among the lowest-paid laborers. The issues that the agriculture sector is having must be addressed in order to reduce poverty and promote economic growth. These issues must also be used to create opportunities for the underprivileged [7].

Keywords

Agricultural Education, Food Insecurity, Enrolments, Historical Overview

Introduction

Agricultural education has traditionally been centered on teaching the fundamentals of production agriculture to a relatively small number of students. This audience was often comprised of male, rural students who were returning to the family farm. Some educational institutions remained steadfastly committed to the "vocational" educational model, emphasizing "how" rather than "why" while instructing students in the subject of vocational agriculture [12]. As science advanced, this concentration led to a decline in agricultural enrollments and a focus on agriculture's vocational rather than scientific aspects (National Research Council [NRC], 1988). In its research entitled *Mastering Agriculture: New*

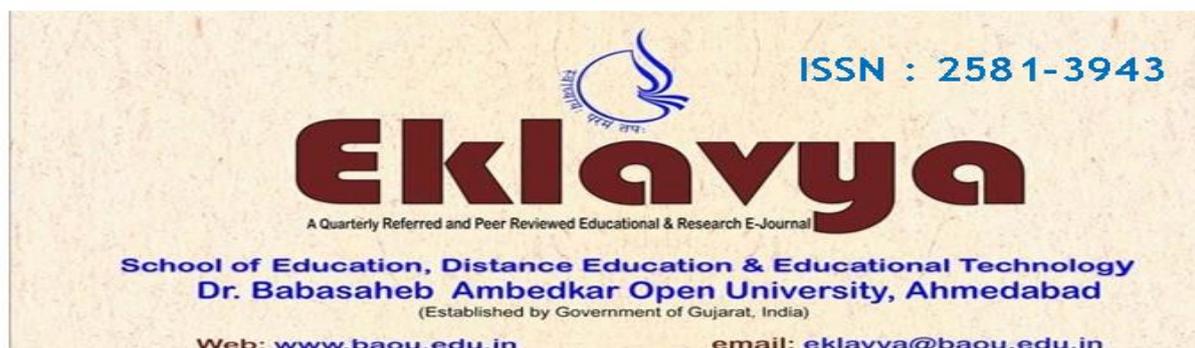


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Directions for Education, the National Research Council (NRC) proposed that the "vocational" designation be discarded in order to better accurately depict the scientific and technical aspects of agriculture. This recommendation was made in light of the fact that agriculture is a multidisciplinary field [9].

Over the course of the past few decades, there has been a noticeable rise in the level of interest displayed by local communities about educational programming concerning urban agriculture. Although the idea of developing urban agriculture education programs is not new, it has recently gained more attention from stakeholders and agricultural educators due to increased interest [13]. Expanding agricultural education programs through establishing agricultural universities located in urban or semi urban regions, has various benefits not just for the students who enroll in the programs but also for the sustainability of agriculture in general. According to Tarpley & Miller 2004, attracting students from various regions especially from the remote regions where the level of education is poor and focuses more on farm for their own livelihood is one strategy to address the growing need to broaden college student enrolment [17]. Through the extension of agricultural education programs led by agricultural university, the entire urban population can be encouraged to become more agriculturally proficient (Warner, 2006). Agricultural literacy is essential in today's society because of the growing need for competent and knowledgeable professionals in the agricultural, food, and natural resources management program [9].

According to Talbert et al. 1997, agricultural colleges/universities and polytechnic institution should make it a priority to broaden their enrolment efforts in order to include students from underrepresented groups. With greater student populations from different ethnic origins and regions, agricultural universities can offer possibilities of disseminating innovative agricultural knowledge in a wider application group. Students in rural and semi urban areas

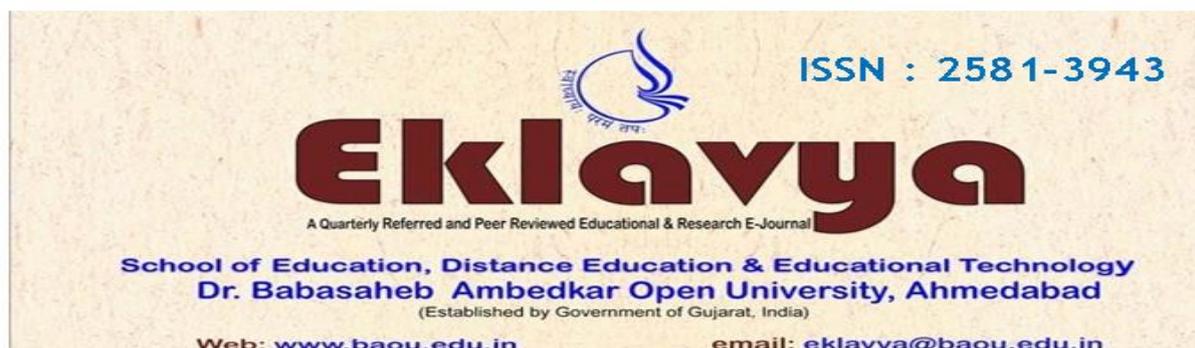


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enrolled in such programs would benefit greatly towards expansion and development of agricultural education/skills throughout their communities [3].

Agricultural Universities, Deemed to be Universities, Central Universities with Agriculture Faculty, and a few additional institutions falling within the private and governmental sectors together make up the total number of educational establishments in India. These educational establishments account for around one percent of the total gross enrollment in all universities and make up nine percent of the total university population [10]. The states of Karnataka, Maharashtra, Andhra Pradesh, Tamil Nadu, Uttarakhand, and Haryana provide the bulk of students for agricultural education, while the states of Karnataka, Maharashtra, and Uttar Pradesh provide the majority of the teaching staff. To keep pace with the global average of 36.7%, India has set a 2022 goal of achieving a Gross Enrollment Ratio (GER) of 32% in higher education [8].

The Gross Enrolment Ratio (GER) concept provides an estimation of the percentage of the population out of the entire eligible population that is enrolled in a particular level of literacy or education. When it comes to elementary education, for instance, GER is the proportion of the population in a given school year that is of primary school age divided by the number of pupils enrolled at the primary level [16]. The current GER in agricultural education is around one percent, which means that just one percent of students who are eligible for agricultural and related sciences education at the Pre-University Course level are enrolled in agricultural programs at higher educational institutions. Policymakers should carefully review the current GER of 1% for agricultural extension education at all India level because there is still a need to increase the enrolment percentage [11]. In addition to enrollment in private agriculture colleges, there are currently 350 constituent institutions with an annual enrollment of 25,000 undergraduate, 15,000 graduate, and 5,000 doctoral students. The ICAR-Agricultural Universities system has over twenty-three scientists working in teaching, research, and



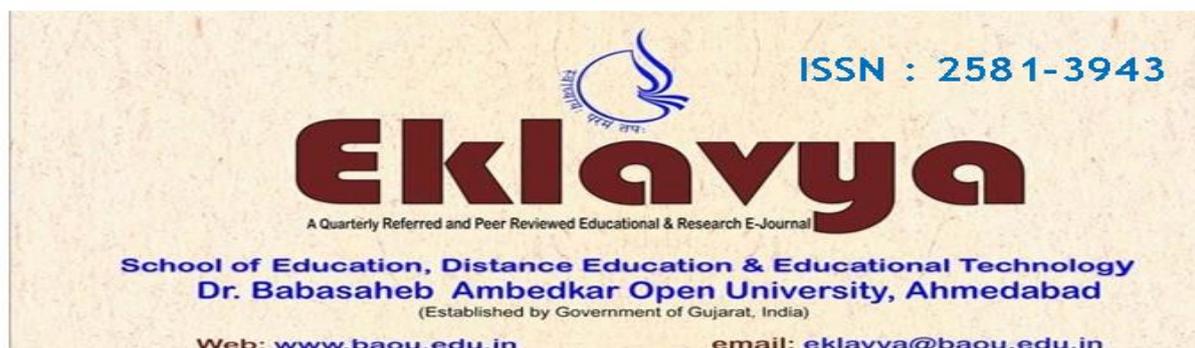
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extension. These universities provide 11 undergraduate degree programs and 93 postgraduate degree programs, with 52% of students coming from rural areas and 36% being female students [5].

Agriculture Education a Historical Overview

Pre-independence India's agricultural education system was modelled after the British system, whereas post-independence India's agricultural education system followed the US Land Grant Colleges model. According to the documents that have been preserved, the first agriculture college in India was created in the year 1877 at a location called Saidapet, which is located close Chennai city. The first veterinary college in undivided India was established in 1882 at Lahore, which is today in Pakistan. In 1884, a three-year course at Veterinary Science was launched in Parel, Bombay. Imperial Bacteriological College in Poona opened its doors in 1889, marking the beginning of significant research in India. In addition to those other Veterinary Colleges were also established in Calcutta (1893) and Madras (1903) [4][6].

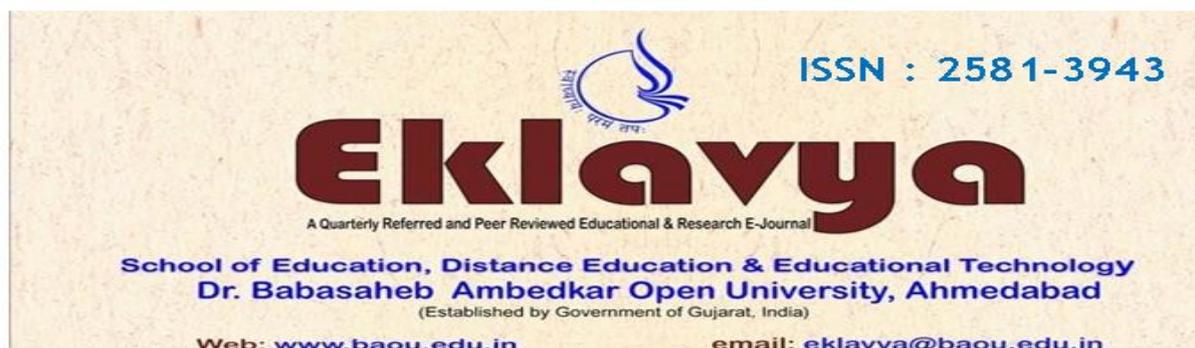
Lord Curzon, who served as Viceroy of India from 1898 to 1905, saw that the government needed to prioritise and urgently focus on agricultural growth as a result of the 1876-78 famine. In 1905, an Agricultural Research Institute was established at Pusa in the Darbhanga district (now Samastipur) of Bihar (later named Imperial but presently Indian Agricultural Research Institute) and at Coimbatore at present in Tamil Nadu . Agricultural colleges were also founded in the years 1906 in the cities of Kanpur, Lyalpur (now in Pakistan), and Nagpur, as well as Poona (1907) and Sabour (1908). In 1923, the then-Imperial Agricultural Research Institute, Pusa, began offering a two-year postgraduate credential also known as a "IARI Associateship," which followed the start of graduate level programmes by the Agricultural Research Institute in 1905 [14][5].



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Imperial (now Indian) Council of Agricultural Research was established in 1929 in response to the suggestions of the Royal Commission on Agriculture (1928) in order to deliver further impetus and assistance to the established Agricultural Research Institutes. Post Graduation courses leading to M.Sc and Ph.D degrees in agricultural sciences were established in the early 1930s. A four-year B.V.Sc. programme was introduced in 1936 by the Madras Veterinary College, which was affiliated with the University of Madras [15][3]. Considerable thrust was extended to the discipline of veterinary education with the founding of five additional veterinary colleges between the years 1946 and 1948. These colleges were located in the cities of Mathura (1946), Rajendra Nagar (1946), Jabalpur (1948), and Jorhat (1948), and Hisar (1948). (1948). In the early 1940s, the Allahabad Agricultural Institute, which is now considered to be deemed to be university, became the first institution in India to offer degree programmes in agricultural engineering. These programmes began before the establishment of veterinary colleges. When India gained independence in 1947, there were 17 agricultural colleges that were associated with regular universities at that time [8].

The University Education Commission, headed by Dr. S. Radhakrishnan, was established by the Indian government after the country attained independence to assess higher education and recommend solutions for the nation's future needs. The Commission suggested making agricultural education a top national priority in order to ensure that the nation can feed itself. The Commission suggested creating independent rural institutions and providing them with the same amenities as those offered to other colleges, including a considerable funding from the Center for Development. Based on the recommendations of the Dr. S. Radhakrishnan Commission on University Education and the two Joint Indo-American Study Teams (1955, 1959), the first agricultural university was established in 1960 at Pantnagar, paving the way for other states to build agricultural universities [1][9][13].

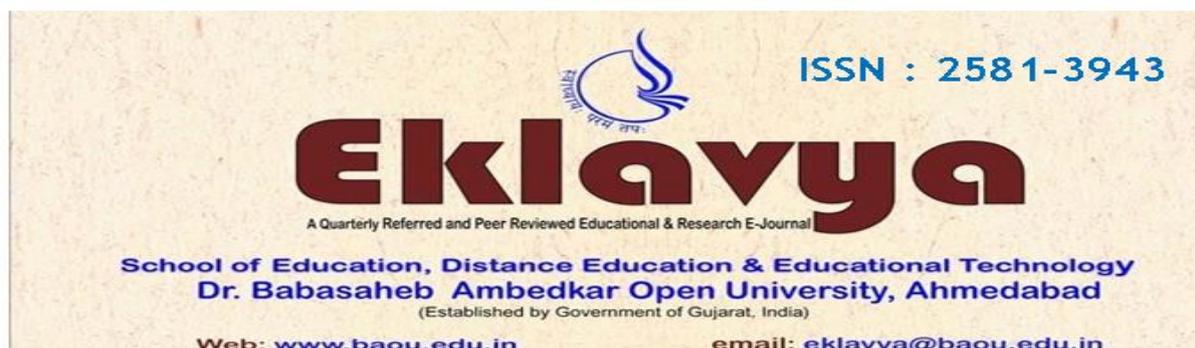


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The foundation of IARI's Postgraduate School in 1958 was a major event that paved the way for the founding of agricultural colleges in India. Presently, India has a network of 53 State Agricultural Universities (SAUs, including 16 specialty Veterinary and Animal Sciences and Horticulture and Forestry Sciences Universities), one Central Agricultural University (CAU), five Institutes having Deemed-to-be-Universities (DUs) status (four of them are ICAR Institutes: IARI, New Delhi; IVRI, Izatnagar; NDRI, Karnal and CIFE, Mumbai and, the fifth Allahabad Agri. Inst. Followed by four central universities having agriculture as a major thrust such as BHU, AMU, Shanti Niketan and Nagaland Agri. Univ.. The institutions have made significant contributions to driving agricultural growth in the nation [7]. They are modelled after the US land grant university model and include instruction, research, and extension education. The agri. univ. offer education in 11 major fields at the undergraduate level and about 95 courses at the post-graduate level through their approximately 265 constituent colleges, which have a 35,000-student intake capacity. Students pursuing higher education in agriculture come from rural areas approximately 55 percent of the time, and only 36 percent of those students are women [10]. In addition, the Indian Institute of Technology in Kharagpur offers instruction in the subject of agricultural engineering, and over 100 privately operated colleges, the majority of which are associated with universities especially in the states of Maharashtra and Chhattisgarh, are affiliated with state agricultural universities, educate over 10,000 students annually [17].

Human Development

Since 1966, India has experienced remarkable progress in the field of agriculture. The expansion in food grain productivity from a low fifty one million tonnes in nineteen hundred fifty to about two hundred forty five million tonnes in 2011-12 is unprecedented in the history of global agriculture. There has also been an increase in the output of milk, fish, oilseeds, and fruits and vegetables [15]. The farming community has seen success as a result

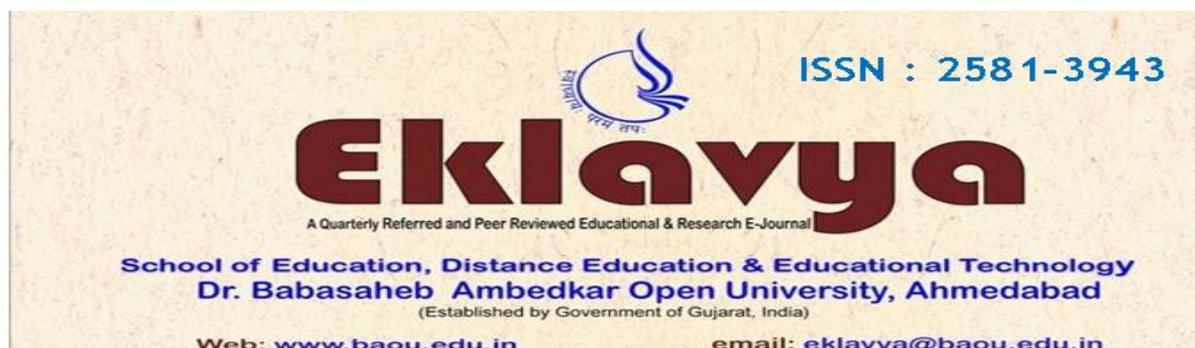


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of the green, blue, yellow, and white revolutions. Alongside favourable policies enacted by the government and a highly receptive farming community, the emergence of institutes of higher agricultural education has been the foundation upon which the success has been established. These institutions produced a new type of highly competent human resource that contributed to the development of new technologies as well as its evaluation, improvement, and dissemination to the farming community [4].

Investing in human resources is essential for agriculture's sustainability, diversification, and prospective growth. The enhancement of agricultural human capital is a continual process being carried out by the State Agricultural Universities, Deemed to Be Universities, Central Agricultural University, and Central Universities with Agriculture Faculty that make up the Indian Council of Agricultural Research (ICAR) - agricultural universities system. Over the course of its history, India's Agricultural Universities, which were modelled after their counterparts in the United States known as "land grants," have made a significant contribution not only to the country's efforts to cultivate its human resources but also to its successes in increasing agricultural output and productivity [6]. The education system in Agricultural Universities modelled after that of the United States, made it possible to impart a wide range of disciplines while simultaneously providing students with plenty of opportunities for hands-on experience [11].

Education in agriculture must now keep pace with the rapidly shifting national and worldwide landscape. As climate change worsens, so do existing and emergent difficulties such as stagnant or declining productivity and profitability, depleting natural resources, dangerous livelihoods for millions of small and marginal farmers, regional inequalities in agricultural productivity, rising input costs and unsound profits, which will have a significant impact on the future of agriculture [1]. In light of the changing picture of globalization of education, emergence of new fields of specialization such as intellectual property rights



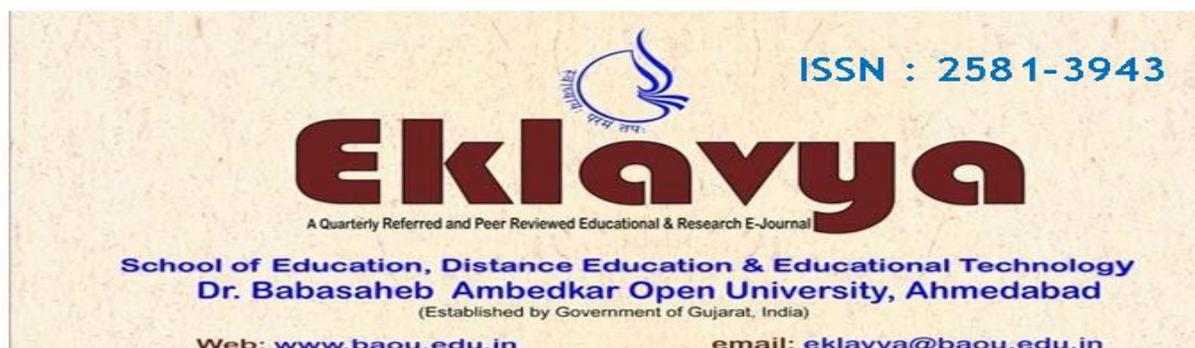
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(IPRs), other WTO-related areas, techno-legal specializations, etc., and the cutting-edge technologies like as biosensors, genomics, and biotechnology, there is a need for a renewed push to improve the quality and relevance of higher agricultural education in order to enable and undertake human capacity building for producing self-motivated professionals and entrepreneurs [17]. The graduates are expected to have the professional qualities necessary to address the challenges associated with the sustainable growth (productive, profitable, and sustainable) of agriculture in all of its aspects [2]. Additionally, the education should address the expectations of the stakeholders, particularly with the utilitarian approach.

In addition, there is a need for agricultural graduates with the knowledge, skills, and entrepreneurial spirit to offer a class of village-based services, such as diagnostic laboratories, advice on new inventions, marketplaces, and avenues. Collaboration among the private sector and academic institutions are vital if the agricultural sector is to acquire highly skilled professionals with cutting-edge skills for global competitiveness [16].

Agriculture Education a way Forward

Although the ICAR-Agricultural Universities system has made a significant impact in technology generation, human resource development and extension education, India's agricultural educational environment is currently affected by limited access, not achieving quality standards, low resourcing, gender disparity and non-contemporary curriculum and implementation methods, hybridization, lack of faculty competency in cutting edge technologies, etc. Legislative and financial backing from each state's government is essential to the establishment of the State Agricultural Universities [5]. ICAR was given the mandate to encourage and ensure the quality of agricultural education. As part of its mandate to fulfil this responsibility, the ICAR has launched a variety of programs to improve agricultural education. Numerous reforms were implemented during the Agricultural Human Resource Development Project (1995–2000). These comprised, among other things, the creation of the



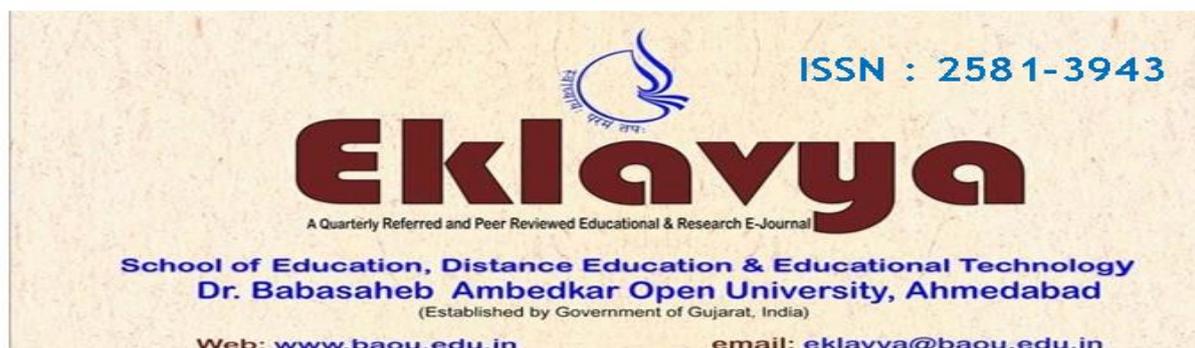
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Accreditation Board for quality assurance, development of novel cultivars, revised curricula and instructional methods, faculty competency upgrading, infrastructure development in regard to access to information, digitalization of libraries, emphasis on educational technology, etc [8].

The ICAR provides them technical and financial support in order to improve the excellence, effectiveness, and accessibility of agricultural research. ICAR provides assistance regarding policy formulation, quality assessment through accreditation, academic regulations, academic curriculum, as well as the development of faculty competency and the encouragement of academic achievement through grants and fellowships, niche areas of specialization and interactive learning units [11]. Pace and quality of technology creation and human capacity building have slowed in the majority of SAUs due to limited state funding, depleted faculty strength, poor faculty development programs, lack of competence of current faculty in new and emerging areas, considerable inbreeding among faculty, and lack of contemporary infrastructure for instruction and research. The issue has been made worse by the creation of new sector-specific state agricultural institutions and colleges and lack of corresponding funding [13].

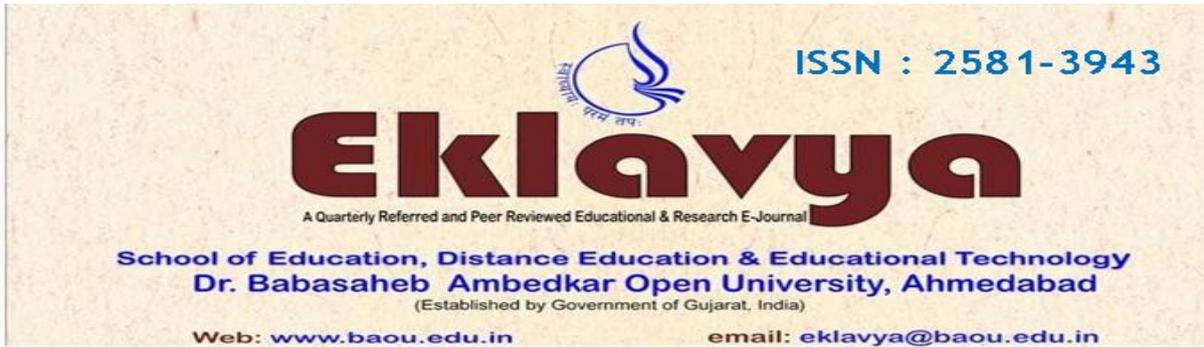
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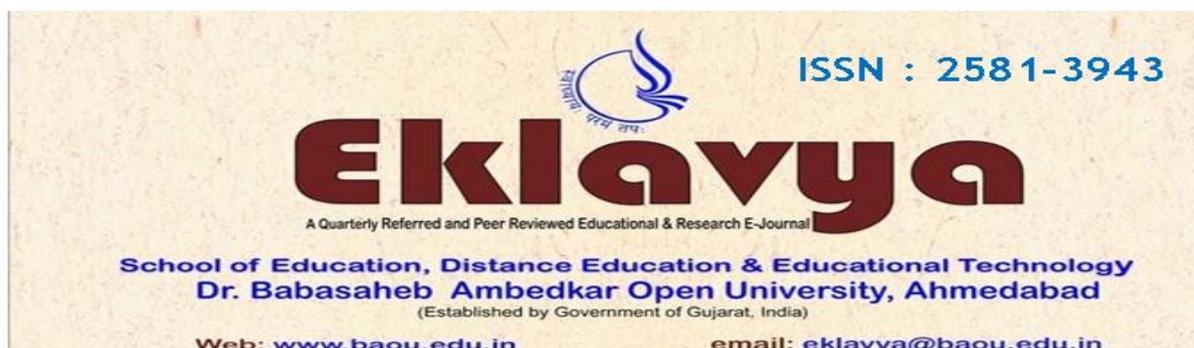
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The Effect of Kinaesthetic Learner's Learning Style Based Instructional Strategy on Science Achievement of Secondary School Students in the Context of Pri- Achievement Test

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ABSTRACT



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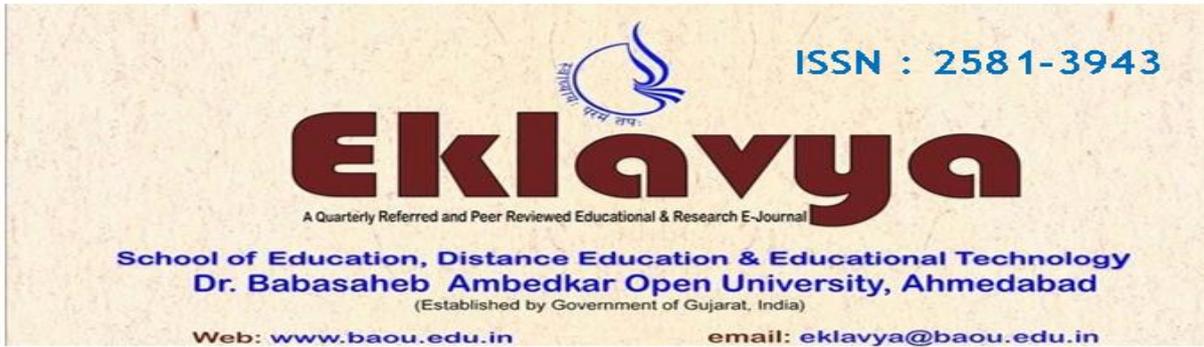
Learning is the central theme of Educational Psychology. One of the most important innovations in the field of education is that of the unprecedented advancement and enhancement in the use of educational technology. This change has influenced the classroom teaching and the learning process.

The aim of present study was to measure the effect of kinesthetic learner's learning style based instructional strategy on science achievement of secondary school students. The main objective of this study is **to study the effectiveness of kinesthetic learning style based instructional programmes on science achievement considering PRI-ACHIEVEMENT TEST as a covariate.** For this study researcher made standardized learning style inventory for find out kinesthetic learners. Researcher also made kinesthetic learning style instructional programme of selected science unit. Researcher selected one secondary school 8th standard students and measure learning style of all students on this basis find out students having kinesthetic learning style. Researcher applied kinesthetic learning style instructional programme on experimental group and teaches traditionally to conventional group's kinesthetic students. The present study was carried out by using experimental research method. The researcher selected the "one Experimental and a control groups, post-test only design" for conducting the experiment. Researcher collected data with standard science achievement test. Researcher also measure student's PRI-ACHIEVEMENT TEST with appropriate tools. Data analysis had been done use of statistical technique ANCOVA with the help SPSS 17.0. Researcher got significant difference in educational achievement of kinesthetic learners class and kinesthetic learners form traditional learner class. That means result of kinesthetic learning style instructional programme is effective in comparison to conventional teaching method.

For better academic achievement Teacher should have studied the learning style of students and construct learning style instructional programme in routine teaching process.

Key Words: Learning Style, Kinesthetic Learner, Kinesthetic Learning Style Instructional Programme

1.0 Introduction



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Learning is the central theme of Educational Psychology. Teacher teaches in the classroom aiming to give maximum learning experience to the learners. Teacher teaches the same content to the all students but in same class, same atmosphere two students do not learn same thing because of due to many factors affect to them. Learning Style is one of the factor, and every student has own learning style. In the last many years, a number of educators have proposed that teaching would be more effective if faculty members took account of difference in students' learning style. Researcher had found different Learning Style e.g. Visual, Auditory and Kinesthetic.

Hence in the present study the researcher has conducted the experiment to examine the effect of kinesthetic learner's learning style based instructional strategy on science achievement of secondary school students.

2.0 Statement of the problem

The title of the present study was verbalized as;

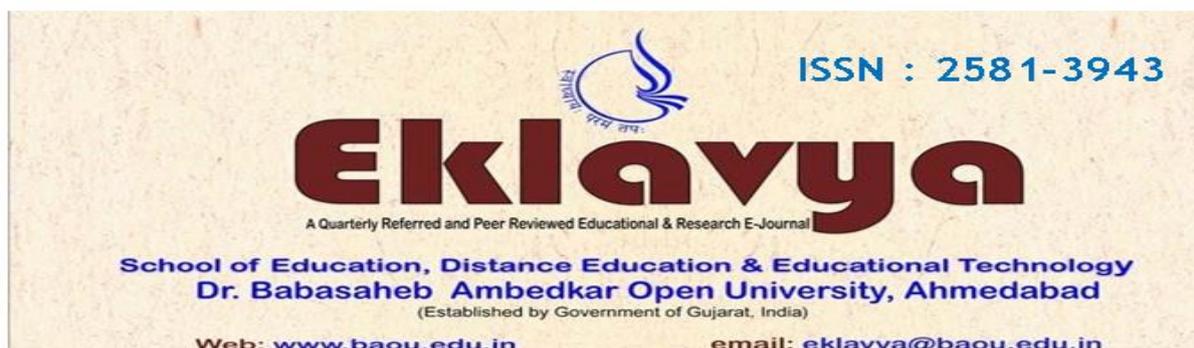
The Effect of Kinesthetic learner's Learning Style Based Instructional Strategy on Science Achievement of Secondary School Students.

In the present study, the researcher has developed learning style inventory and Kinesthetic learning style instructional strategy with reference Kinesthetic Learner Style. The researcher has implemented the Kinesthetic learning style instructional strategy on the students of 8th standard in Gujarati medium school to examine its effect on educational achievement of science.

3.0 Objectives of the study

For the present study, the researcher had decided the following objectives.

1. To develop and standardize a Learning Style Inventory (LSI)
2. To develop Kinesthetic learner's Learning Style Based Instructional Programme.
3. To develop science achievement test.



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4. To study the effectiveness of kinesthetic learning style based instructional programmes on science achievement considering PRI-ACHIEVEMENT TEST as a covariate.

4.0 Area of the Research

In the present study, the researcher has developed the kinesthetic learning style based instructional strategy. So the area of study was Teaching Strategies. Various educational technologies were involved in the kinesthetic instructional programme. Hence, the problem of the study was also related to the area of the Educational Technology.

5.0 Type of Research

In the present study, the data in terms of the scores of the post-test was collected and analyzed. The result of the study was found out with the help of the proper statistical technique.. Hence, the present study was classified under the quantitative research.

6.0 Hypothesis to be tested

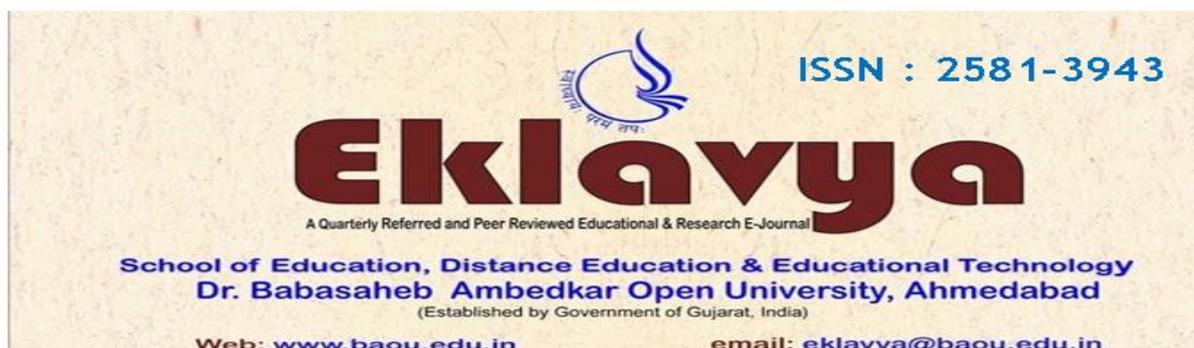
In the present study following null hypothesis is formulated:

There will be no significant difference between adjusted mean science achievement scores of kinesthetic learners taught through the Kinesthetic Instructional Programme and general learners taught through the Traditional Teaching Method considering PRI-ACHIEVEMENT TEST as a co-variate.

7.0 Variables involved in the study

The following variables were involved in the present study.

Independent Variable	Dependent Variable	Controlled Variable	Intervening Variables
Kinesthetic Learning Style Instructional	Score of Science Achievement	Subject related control variables were as : 1. Standard, 2. Medium, 3.	-Interest and enthusiasm towards the subject -Novelty (Innovative aspect) o



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Strategy		Subject 4. Content Personal domain related control variables PRI-ACHIEVEMENT TEST	the study -Other's help - Interaction among the group and between the groups
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8.0 Operational definition of terms

The operational definitions of the terms used in the present study are given below.

Learning Style Inventory. Students were identified through a learning style inventory. According to it, there are three categories of learners based on which learning style of students can be identified.

The Kinesthetic Learner. The learner who remembers what he does is known as the kinesthetic learner. If they are learning a new skill, they learn best with a “hands-on” approach. Only about 10% of the population is kinesthetic learner.

Kinesthetic Instructional Programme. It consisted the teaching strategies using writing, doing experiences to teach the content points.

9.0 Population

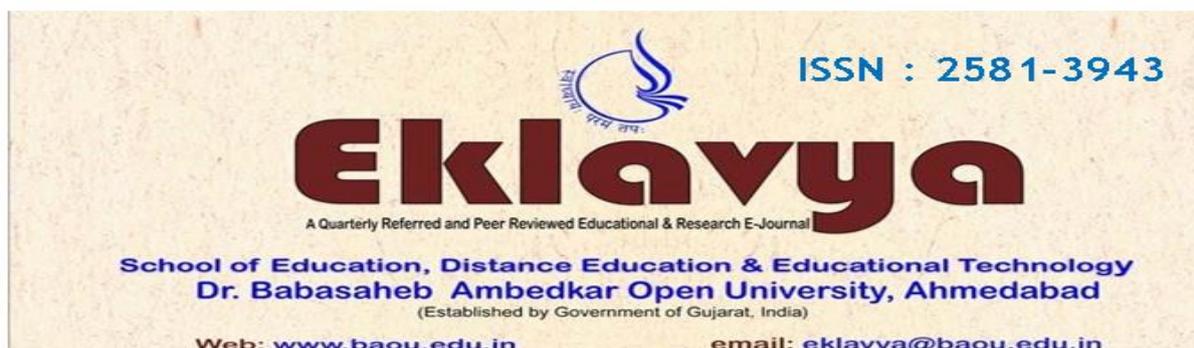
The students of the VIII standard of Gujrati medium school of Surendranagarcity were considered as the population for the present study.

10.0 Sample

Researcher had selected Shri Sardar Patel Vidyalay of Surendranagarcity having seven class of 8th standard by stratified random cluster sampling method. There were 377 students in 8th standard. First of all, researcher administered learning style inventory on 377 students of seven classes (A1-A7). Then he calculated the percentage of kinesthetic learners in each class. And sample select from them according to Kinesthetic learning style of class.

Thus, finally selected sample for the present study is given in Table-1.

Table -1



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Sample selected for the present study

Class	Total no of Students	Type of Learners	Subjects selected in sample	Learning Style of the selected Learners	Group
A1	56	Kinesthetic	24	Kinesthetic Learning Style	Experimental Group
A2	65	Global	K-19	Global Learning Style	Global group

11.0 Tool

In present study the following of tools were used:

Standardized Learning Style Inventory made by researcher and standardized Desai verbal non-verbal IQ test and Science achievement MCA test having 40 marks.

12.0 Research Method

The present study was carried out by using experimental research method. The researcher selected the “one Experimental and a control groups, post-test only design” for conducting the experiment.

Detailed Presentation of Experimental Design

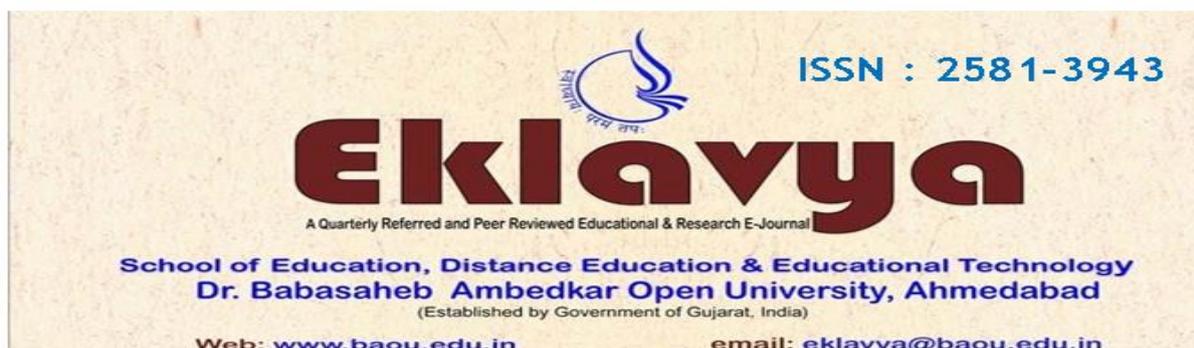
Group	Pre-test	Independent variable(treatment)	Post-test
Experimental Group-E ₁	-----	X ₁	T ₂ E ₁
Global (Control) Group- C	-----		T ₂ C

Where,

E₁ = Kinesthetic Learners Group

C = Global Learners (Control) Group

X₁ = Kinesthetic Instructional Programme



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T₁E₁ = Post-test given by Kinesthetic Learners Group

T₂C = Post-test given by Global Learners (Control) Group

13.0 Kinesthetic Learning Style Instructional Programme

Here researcher selected three science unit of 8th standard science. E.g. Structure of Atom, Carbon and Electricity. Following types of instructional strategies were included in this programme: Demonstration method, Experimental method, Project work, cut and paste task, hands on approach activity, Drama and play technique, Use of highlighter activity.

14.0 Procedure of Data Analysis

In the present study, the main objective of the study was to study the effect of kinesthetic instructional programme as compare to lecture method. The variables standard, medium, subject and content were controlled maintaining these variables equal to the all groups, but it was not practical to make all groups equal regarding PRI-ACHIEVEMENT TEST. So, one variable PRI-ACHIEVEMENT TEST was considered as co-variate. Hence, in this situation the statistical analysis technique ANCOVA was used to study the significance of the difference between two groups eliminating the effect of the covariate. The SPSS Programme was used for performing all data analysis.

15.0 Finding of the Study

The present study was carried out to examine the effectiveness of kinesthetic learner's learning style based instructional strategy on science achievement of secondary school students. The conclusions are presented here regarding the experiments conducted in the study. The conclusions are given with reference to co-variety frame which discussed below.

When Pri-Achievement Test as a co-variate

The significance of difference between mean achievement scores
of the Kinesthetic learners group and the Kinesthetic learners

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of control group considering pri- achievement test as co-variate

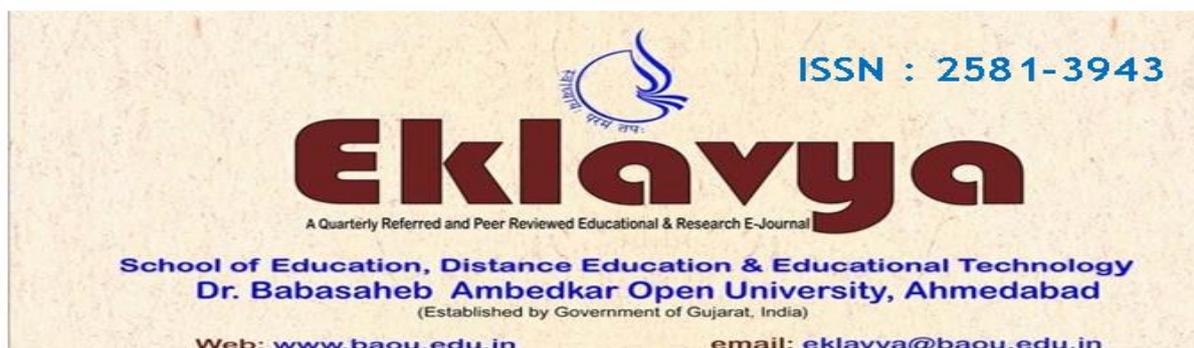
Group	Number	Mean of PRI- ACHIEVEMENT TEST scores	Mean of ach. score in Science	Adjusted mean of ach. scores in Science
3	24	105.875	29.125	29.130
4	19	103.211	25.684	25.677

Analysis of co-variance of achievement scores

Source of Variance	Sum of Squares	df	Mean Square	F value	Sig. level
Group	114.755	1	114.755	9.828	0.01
Error	478.715	41	11.676		
Total	593.47	42			

Observation of the Table shows that the kinesthetic learners group and the kinesthetic learners of control group consists 24 and 19 subjects respectively. Mean PRI-ACHIEVEMENT TEST scores of these two groups were 105.875 and 103.211 respectively. After removing the effect of PRI-ACHIEVEMENT TEST by ANCOVA adjusted means of achievement of the kinesthetic learners group and the kinesthetic learners of control group were 29.130 and 25.677 respectively.

The F value for the significance of difference between adjusted mean achievement scores of the Kinesthetic learners group and the Kinesthetic learners of control group was 9.828 which was significant at 0.01 level. Hence the null hypothesis “There will be no significant difference between adjusted mean science achievement scores of kinesthetic learners taught through the Kinesthetic Instructional Programme and kinesthetic learners



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taught through the Traditional Teaching Method considering PRI-ACHIEVEMENT TEST as a co-variate.” was rejected. So it can be said that there was significant difference between adjusted means of science achievement scores of kinesthetic learners group and kinesthetic learners of control group.

Further, according to the Table the adjusted mean of science achievement scores of kinesthetic learners group and kinesthetic learners of Control group were 29.130 and 25.677 respectively. It means kinesthetic learners group was higher than kinesthetic learners of control group in science achievement.

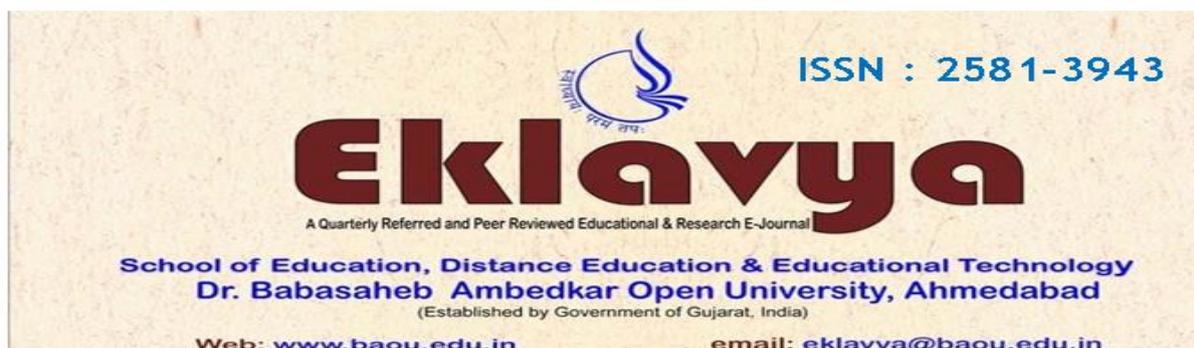
So it can be said that the Kinesthetic Instructional Programme is effective on science achievement of kinesthetic learners, when control group is also kinesthetic learner group and PRI-ACHIEVEMENT TEST is controlled statistically.

16.0 Educational Implication of the Study

On the basis of the findings of the study educational implications are drawn as follow:

Kinesthetic instructional programme is effective in the case of 8th standard students on achievement of science while considering PRI-ACHIEVEMENT TEST as covariate. So, teacher should use kinesthetic instructional programme for teaching the content to kinesthetic learners. The teacher should use experiment method, cut and paste task activity and project method, games activity etc. strategies or kinesthetic representation of course material.

1. The teacher should use demonstration, Experimental, cut and paste activity, drama, making model, project method, hand's on approach method, games activity etc. strategies or Kinesthetic representation of course material.
2. These Kinesthetic instructional programmers are helpful for increasing learning skill for students. These programme are useful for teacher to class room instruction.



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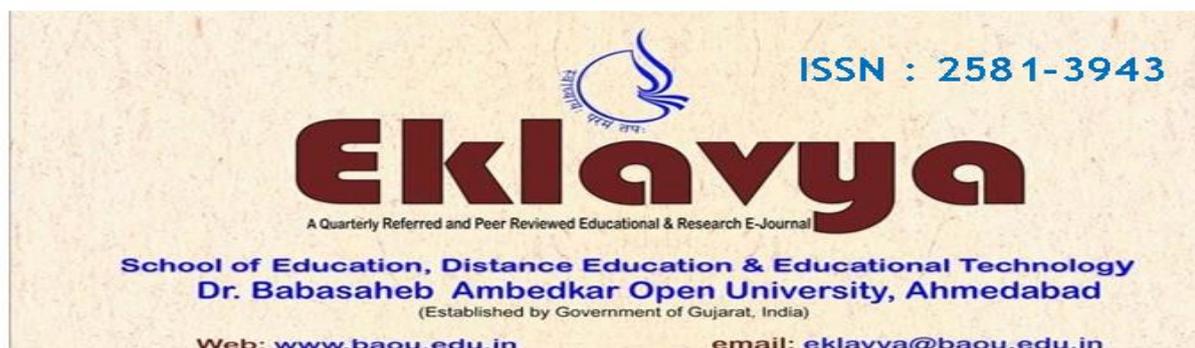
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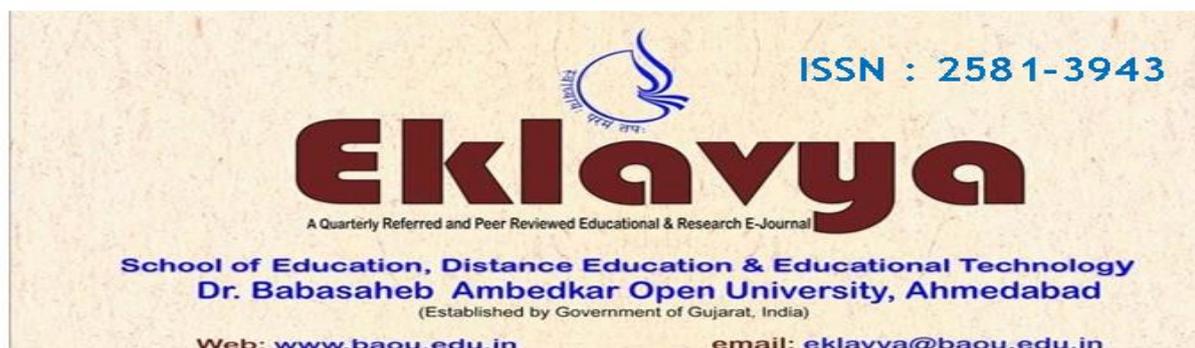
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