

செயலாய்வுத் தலைப்பு

எட்டாம் வகுப்பு மாணவர்களிடம் நூலகப் பயன்பாட்டினை களப்பயணம்

மூலம் புரிதல் திறனை மேம்படுத்துதல்.

அறிமுகம்

கோவில் இல்லாத ஊரில் குடியிருக்க வேண்டாம் என்பார்கள், நூலகம் இல்லாத ஊர் தம் பொலிவை இழந்து காணப்படும். அறிவின் நுழைவு வாயில் நூலகங்கள் நாம் அறிவை திறக்கும் சாவிகள் தான் புத்தகங்கள். வீட்டிற்கு ஒரு புத்தகசாலை வேண்டும் என்றார் அறிஞர் அண்ணா.

நூலகம் (Library) என்பது பொது அமைப்புகள், நிறுவனங்கள் அல்லது தனி நபர்களால் உருவாக்கப்பட்டு பேணப்படுகின்ற தகவல் மூலங்களின் ஒரு சேமிப்பு ஆகும். அறிவை வளர்க்கும் புத்தகங்கள் அனைத்தும் ஒன்று கூடும் இடம் நூலகம் ஆகும்.

“ஒரு நூலகம் திறக்கப்படும் போது ஒரு சிறைச்சாலை மூடப்படுகிறது.”

கற்றதனால் பெற்ற பயனென்ன - நாம்

கற்றதை கற்பிக்காமல் வாழ்ந்தென்ன

அன்பினை உறவிலே நட்பிலே

விருப்பு வெறுப்பு

வேண்டிதல் வேண்டாமை வேண்டாம்.

அன்பும் பண்புமே

பிறவியினெனும் பெருங்கடலில்

வாழ்க்கை படகுக்கு துடுப்புகளாம்.

நூலகம் பற்றிய பொன்மொழிகள்

1. எந்த வீட்டில் நூல் நிலையம் இருக்கிறதோ அந்த வீட்டில் தான் ஒளிவிளக்கு இருக்கிறது.
2. ஒரு நூலகத்தையும், ஒரு தோட்டத்தையும் வைத்திருக்கும் ஒருவருக்கு வேறு எதுவும் தேவையில்லை.
3. நூலகங்கள் திறமை இல்லாதவர்களைக் கூட திறமைசாலிகளாக மாற்றிவிடும்.
4. ஒரு புத்தகத்தை எழுத நீங்கள் பாதி நூலகத்தை படிக்க வேண்டும்.
5. நூலகம் என்னும் நண்பன் இருந்தால் அறிவு, ஆற்றல் ,பண்பு இவையெல்லாம் சிறக்கும்.படைக்கும் ஆற்றல் படிக்கும் ஆற்றல் பெருகும்

நூலகத்தின் சிறப்பு

அன்றாட நிகழ்வுகளை அறியவும் இலக்கியங்கள், வரலாறு ,பொது அறிவு என அறிவார்ந்த படைப்புகளை பருக உதவும் அறிவு தடாகம் தான் நூலகம். மனித வாழ்வின் மாண்பு என்பது நல்லவற்றைக் கற்றலும் அதன்படி நடத்தலுமே ஆகும். நல்ல பயனுள்ள நூல்களை கற்பதாவது மனிதர்கள் தவறிழைக்காது அவர்கள் வகை யறிய செய்வதாக அமையும்.

புத்தகங்கள் இல்லாத வீடு சாளரங்கள்

இல்லாத சத்திரம் போன்றது.

நூலகத்தின் வகைகள்

பொது நூலகம், கல்வி நூலகங்கள், விசேட நூலகங்கள், பாடசாலை

பல நூறு நண்பர்களை விட ஒரு நல்ல புத்தகம் மிகச்சிறந்த நண்பன் ஆகும்.

பெரம்பலூர் மாவட்டத்தில் செயல்படும் நூலகங்களின் விவரம்

வ. எண்	நூலகங்கள்	எண் ணிக் கை	பணிநேரம்
1	மாவட்ட மைய நூலகம் பெரம்பலூர்	1	காலை 8:00 மணி முதல் இரவு 8:00 மணி வரை
2	முழுநேர கிளை நூலகம் வேப்பந்தட்டை	1	காலை 8:00 மணி முதல் இரவு 8:00 மணி வரை

3	கிளை நூலகங்கள்	18	காலை 9:00 மணி முதல் 12:30 மணி வரை மாலை 1 மணி முதல் 6:00 மணி வரை
4	ஊர்ப்புற நூலகங்கள்	24	காலை 9:00 மணி முதல் 12:00 மணி வரை மாலை 4:00 மணி முதல் 6:30 வரை
5	பகுதி நேர நூலகங்கள்	42	காலை 8:00 மணி முதல் 11:00 மணி வரை
	மொத்தம்	86	

மாவட்ட மைய நூலகம் செயல்படும் பிரிவுகள்

தரைத்தளம்	முதல் தளம்
1. நாளிதழ் மற்றும் பருவ இதழ்கள் பிரிவு 2. நூல் இரவல் பிரிவு 3. குழந்தைகள் பிரிவு	1. குறிப்புதவி பிரிவு 2. குடிமைப் பணி பிரிவு 3. இணையதளம் பிரிவு 4. ஒளி நகல் பிரிவு

4. மாற்றுத்திறனாளிகள் பிரிவு	
5. சொந்தநூல்கள் படிக்கும் பிரிவு	

கிளை மற்றும் ஊர்ப்புற நூலகங்கள் செயல்படும் பிரிவுகள்

வ. எண்	உறுப்பினர் விவரம்	காப்பு தொகை	ஓர் ஆண்டு சந்தா	மொத்தம்
1	1நூல் எடுத்து செல்ல	15.00	5.00	20.00
2	2 நூல் எடுத்து செல்ல	25.00	5.00	30.00
3	3 நூல் எடுத்து செல்ல	30.00	5.00	35.00
4	4 நூல் எடுத்து செல்ல	100.00	10.00	110.00

உறுப்பினர் சேர்க்கை கட்டணம் விபரம்

(நூல்கள் இரவலாக பெற்றுச் சென்று திரும்ப ஒப்படைக்க)

அ) மாவட்ட மைய நூலகம், பெரம்பலூர்

வ. எண்	உறுப்பினர் விவரம்	காப்பு தொகை	ஓர் ஆண்டு சந்தா	மொத்தம்
1	1நூல் எடுத்து செல்ல	20.00	10.00	30.00

2	2 நூல் எடுத்து செல்ல	40.00	10.00	50.00
3	3 நூல் எடுத்து செல்ல	50.00	10.00	60.00
4	4 நூல் எடுத்து செல்ல	100.00	10.00	110.00

மாவட்ட மைய நூலகம் பெரம்பலூர்

கிளை / ஊர்ப்புற / பகுதி நேர நூலகங்கள்

பெரம்பலூர் மாவட்டத்தில் செயல்படும் நூலகங்கள்

வ. எண்	நூலகங்களின் பெயர்	வ. எண்	நூலகங்களின் பெயர்
	மாவட்ட மைய நூலகம்		ஊர்ப்புற நூலகங்கள்
1	பெரம்பலூர்	1	கீழ்ப்பெரம்பலூர்
	முழு நேர கிளை நூலகம்	2	ஒகனூர்
1	வேப்பந்தட்டை	3	கொளக்காந்தம்
	கிளை நூலகங்கள்	4	வயலப்பாடி
1	அரும்பாவூர்	5	பாளையம்
2	குரும்பலூர்	6	தொண்ட மாந்துறை

3	இலப்பைக்குடிகாடு	7	சந்திர மனை
4	வேப்பூர்	8	நக்க சேலம்
5	இலாடபுரம்	9	வைத்தியநாத புரம்
6	வ. களத்தூர்	10	கிழுமத்தூர்
7	பூலாம்பாடி	11	வாலிகண்டபுரம்
8	மருவத்தூர்	12	எழுமூர்
9	அன்ன மங்கலம்	13	பேரளி
10	சிறுவாச்சூர்	14	அகரம் சீகூர்
11	கல்பாடி	15	வ. களத்தூர்
12	செட்டிக்குளம்	16	கை. களத்தூர்
13	குன்னம்	17	கீழ்ப்புலியூர்
14	எசனை	18	அரசலூர்
15	அம்மாபாளையம்	19	கை. பெரம்பலூர்
16	பாடாலூர்	20	அந்தூர்
17	துங்கபுரம்	21	சு. ஆடுதுறை
18	மேற்கு வானொலிதிடல்	22	பொம்மனப்பாடி
		23	மலையாளப் பட்டி.
		24	எளம்பலூர்

3 புரவலர்கள் சேர்க்கை விவரம்

வ. எண்	புரவலர் விவரம்	தொகை ரூ
1	புரவலர்	1000.00
2	பெரும் புரவலர்	5000.00
3	கொடையாளர்	10000.00

ஆ. கிளை மற்றும் ஊர்ப்புற நூலகங்கள் செயல்படும் பிரிவுகள்

1. நாளிதழ் மற்றும் பருவ இதழ்கள் பிரிவு

2. நூல் இரவல் பிரிவு

3. குறிப்புதவி நூல்கள் பிரிவு

இ. பகுதி நேர நூலகங்கள் செயல்படும் பிரிவுகள்

1. நாளிதழ் பிரிவு

2. நூல் இரவல் பிரிவு

பிரச்சனையை அடையாளம் காணுதல்

- நூலகம் பற்றிய புரிதல் சற்று கடினமாக இருப்பது கண்டறியப்பட்டது.

- மாவட்ட நூலகத்திற்கு எவ்வாறு செல்வது என்பதில் குழப்பங்கள் இருப்பது கண்டறியப்பட்டது.
- கிராமப்புற நூலகம் மாவட்ட மைய நூலகம் வேறுபடுத்தி அறிவதில் மாணவர்கள் புரிதலின்றி இருந்தனர்.
- நூலகத்தினை மிக குறைவாக பயன்படுத்துதல்.

செயலாய்வு சிக்கலின் முக்கியத்துவம்

நூலகம் பற்றியும், வாசிப்பு மற்றும் நூலக செயல்பாடுகள் பற்றி புரிந்து கொண்டு பயன்படுத்துவதில் கடினத்தன்மை காணப்படுவதால் இவ்வாய்வு மேற்கொள்ளப்பட்டது.

செயலாய்வின் நோக்கம்

- நூலகப் பயன்பாட்டினை புரிந்து கொள்வதில் சிக்கல்களை அடையாளம் காணுதல்.
- களப்பயணம் மற்றும் பொருத்தமான செயல்பாடுகளை வடிவமைத்தல்.
- களப்பயணம் மற்றும் வடிவமைத்த செயல்பாடுகளை வகுப்பறையில் நடைமுறைப்படுத்துதல் .
- மாணவர்களிடையே நூலகப் பயன்பாட்டினை பற்றிய புரிதலை மதிப்பிடுதல்.

பிரச்சினைக்கான உத்தேச காரணங்கள்

நூலகத்தை பயன்படுத்துவதில் மாணவர்களிடையே ஆர்வமில்லாமல் இருத்தல்.

வகுப்பறையில் நூலகப் பயன்பாடு பற்றி குறைவான பங்களிப்பு

ஆசிரியர்களுக்கு பயிற்சி அளிப்பதற்கு போதிய நேரமின்மை

மாவட்ட மைய நூலகத்தினை பயன்படுத்துவதை எளிதில் புரிந்து கொள்ள இயலவில்லை

முக்கியப் பிரச்சனையை முதன்மைப்படுத்துதல் .

நூலகம் பற்றியும் அவற்றின் பயன்கள் பற்றியும் அறிந்து கொள்ளாததால் சிரமங்கள் காணப்படுகின்றன .

செயலாய்வு நடைமுறைப்படுத்துதல் .

அ) செயலாய்வு முறை

நூலகப் பயணம் மூலமாக மாணவர்களிடம் செயலாய்வின் முன்னேற்றம் கண்டறியப்பட்டது.

ஆ) செயலாய்வில் எல்லை

நூலகப் புத்தகங்கள் மற்றும் பள்ளி இதழ்கள் அடங்கிய தொகுப்புகள் எடுத்துக் கொள்ளப்படுகிறது.

இ) செயலாய்வு மாதிரி

பெரம்பலூர் மாவட்டம் பெரம்பலூர் ஒன்றியம் அருமடல் ஊராட்சி ஒன்றிய நடுநிலைப் பள்ளியில் உள்ள எட்டாம் வகுப்பு மாணவர்கள் எடுத்துக்கொள்ளப்பட்டனர்.

செயலாய்வுப் பள்ளி விவரங்கள் சேகரித்தல் மற்றும் அட்டவணைப்படுத்துதல்.

செயலாய்வு கருதுகோளைச் சோதித்தறிய முன் தேர்வு மற்றும் பின்தேர்வு பள்ளி விவரங்கள் ஒப்பீடு செய்யப்பட்டன. இதற்கான முன் தேர்வு மற்றும் பின்தேர்விற்கு ஒரே மாதிரியான வினாத்தாள் ஆய்வாளரால் தயாரிக்கப்பட்டு பயன்படுத்தப்பட்டது.

தேர்வின் புறவயத் தன்மையை உறுதி செய்வதற்காக நூலகம் சார்ந்த புறவய வினாக்கள் கேட்கப்பட்டன. மாணவர்களின் பெயர்கள் அட்டவணைப்படுத்தப்பட்டுள்ளது.

செயலாய்வு கருவி

வினாநிரல் வாயிலாக மாணவர்களுக்கு முன் தேர்வு பின் தேர்வு நடத்தப்பட்டு செயலாய்வு மேற்கொள்ளப்பட்டது.

செயலாய்வுக் கருவிகள் அமைப்பு

ஆய்வாளரால் வடிவமைத்துத் தரப்படுத்தப்பட்ட செயலாய்வுக் கருவி மாணவர்களுக்கு கொடுக்கப்பட்டு செயலாய்வு மேற்கொள்ளப்பட்டது.

பலவும் தெரிக வினாக்கள் மூலம் மாணவர்கள் நூலகத்தினை எவ்வாறு பயன்படுத்தலாம் என்பதைப் போன்ற வினாக்கள் இவ்வாறு முன் தேர்வு வினா நிரல் மற்றும் பின் தேர்வு வினா நிரல் ஆய்வு மேற்கொள்ளப்பட்டது.

அட்டவணை 1

செயலாய்வு கருவியின் விளக்கம்

கருவியின் வகை வினா நிரல் வடிவில் வடிவமைப்பாளர் ஆய்வாளர்

வரிசைஎண்	வினாகூறு வடிவமைப்பு	வினா எண்	மதிப்பெண்
1	பலவுள் தெரிவு வினா	20	20
2	வாய்மொழித் தேர்வு வினா	5	5
மொத்தம்			25

முன் தேர்வு மற்றும் பின் தேர்வு செயலாய்வு கருவிகள்

நூலகப் பயன்களை நூலகப் பயணம் மூலம் எட்டாம் வகுப்பு மாணவர்களிடம் நூலகப் பயன்பாட்டில் ஏற்படும் சிக்கல்களுக்குத் தீர்வு காண்பது அதற்காக பெரம்பலூர் மாவட்டம் ,

பெரம்பலூர் ஒன்றியம் அருமடல் ஊராட்சி ஒன்றிய நடுநிலைப்பள்ளியில் உள்ள எட்டாம் வகுப்பு மாணவர்கள் எடுத்துக் கொள்ளப்பட்டனர். எழுத்துத் தேர்வு மற்றும் வாய்மொழித் தேர்வு வினா நிரல் பயன்படுத்தி பரிசோதனை முறையில் செயலாய்வு மேற்கொள்ளப்பட்டது.

அ) கருவியை அளவிடும் தொகுதிகள்

மாணவர்களின் நூலகப் பயன்பாட்டினை நூலகப் பயணம், காணொலிகள், நழுவங்கள், இதழ் வாசித்தல் ஆகியவற்றை பயன்படுத்துவதால் ஏற்படும் புரிதல் திறன் மூன்று பரிமாணங்களில் அளவிடப்பட்டது.

- நூலக பயணம் மூலம் நூலகப் பயன்பாட்டினை அறிதல்.
- மாணவர்களுக்கான இதழ்கள் ஆசிரியர்களுக்கான இதழ்கள் பற்றி அறிதல்
- நூலகத்தின் பயன்கள் மற்றும் செயல்பாடுகளை அறிதல்.

ஆ) கட்டமைத்தல்

நூலகப் பயன்கள் மற்றும் செயல்பாட்டினை முன் தேர்வு மற்றும் பின் தேர்வு வினா நிரலுக்கேற்ற சோதனை உருப்படிகள் உருவாக்கப்பட்டன.

இவ்வாறு உருவாக்கப்பட்ட 25 சோதனை உருப்படிகளுக்கு 3 வரைவுகள் தயாரித்து வல்லுநர்களுடன் தனித்தனியே ஆய்வுக்கு உட்படுத்தப்பட்டு தரப்படுத்தப்பட்டு தேவையான மாற்றங்கள் செய்தும் நீக்கப்படும் மதிப்பீடு செய்யப்பட்டும் 20 உருப்படிகள் உருவாக்கப்பட்டது.

13. செயலாய்வு இடையீட்டு முறைகள்

- இடையீட்டு கருவிகள்

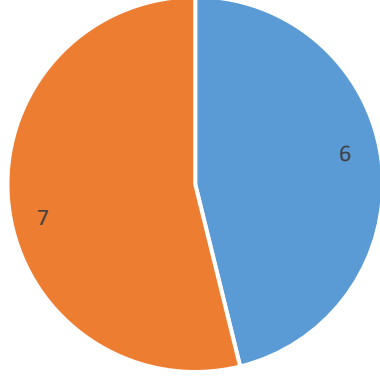
- நூலகப் பயணம்
- வீடியோக்கள்
- நழுவங்கள்
- இதழ்கள்
- கதைகள் மீளாய்வு
- நூலக பயண வீடியோக்கள்
- நூலகம் தோன்றிய வரலாறு பற்றிய வீடியோக்கள்
- பெரம்பலூர் மாவட்டத்தில் செயல்படும் நூலகங்களின் விவரம்
- அண்ணா நூலகம் பற்றிய நழுவங்கள்
- இதழ்கள் வாசிப்பு
- கதைகள் கூறுதல்

ஆகிய இடையீட்டு செயல்பாடுகளைப் பயன்படுத்தி நூலகப் பயணங்கள் பற்றி குறித்து விளக்கப்பட்டது.

செயலாய்வு இடையீட்டை திட்டமிடல்

பெரம்பலூர் மாவட்டம் பெரம்பலூர் ஒன்றியம் அருமடல் ஊராட்சி ஒன்றிய நடுநிலைப்பள்ளியில் பயிலும் எட்டாம் வகுப்பு 13 மாணவர்கள் செயலாய்வின் மாதிரியாக எடுத்துக் கொள்ளப்பட்டனர்.

மாணவர்கள்



■ மாணவர்கள் ■ மாணவிகள்

செயலாய்வு மூலம் முன் தேர்வு மற்றும் பின் தேர்வு அடிப்படையிலான ஒரு முழு மதிப்பீடு மாணவர்களுக்குச் செய்யலாம் என தீர்மானிக்கப்பட்டது .அதன் காரணமாக மாணவர்களுக்கு நூலகப் பயன்கள் மற்றும் செயல்பாடுகள் பற்றி மதிப்பிடும் வகையில் முன் தேர்வு நடத்தப்பட்டது .

முன்தேர்வில் நூலகப் பயன்கள் மற்றும் செயல்பாடுகளில் புரிதல் திறன் குறைவாக இருப்பது கண்டறியப்பட்டது .எனவே அவற்றை களைவதற்கு தெளிவாகவும் ,எளிதில் புரிந்து கொள்ளும் வகையிலும் நூலகப் பயணம் ,காணொளிகள், இதழ்கள் வாசிப்புத் திறன் ஆகிய செயல்பாடுகள் தயாரித்து கற்றல் கற்பித்தல் மேற்கொள்ளப்பட்டது .

நூலகப் பயன்பாடு சார்ந்த செயல்பாடுகள் இடையீடாக கொடுத்த பின்னர் பின் தேர்வு நடத்தப்பட்டது.

இச்செயலாய்வின் மூலம் பெரம்பலூர் மாவட்டம் பெரம்பலூர் ஒன்றியம் அருமடல் ஊராட்சி ஒன்றிய நடுநிலைப்பள்ளியில் பயிலும் எட்டாம் வகுப்பு 13 மாணவர்கள் நூலகப் பயன்பாடு பற்றி புரிதல் திறனை மேம்படுத்துதல் ஆகியன அளந்திட முன் தெர்வு மற்றும் பின் தேர்வு மதிப்பெண் புள்ளிகள் ஒப்பிடப்பட்டது. மாணவர்கள் நூலகப் பயன்பாட்டில் புரிதல் திறனை பெறுகிறார்கள் என்பதனை அறிய இச்செயலாய்வு விளைவின் அளவு கணக்கீடு மேற்கொள்ளப்பட்டது

செயல்பாடு 1

நூலகப் பயணம்

மாணவர்களை மாவட்ட மைய நூலகம் பெரம்பலூருக்கு அழைத்துச் சென்றோம். மாற்றுத்திறனாளிகளுக்கான நூலகப் பிரிவினை பார்வையிட்டனர். சிறுவர்களுக்கான நூலகப் பிரிவு சென்றனர் . அங்கு 1330 குறள்களுக்கு கதைகள் உருவாக்கிய 133 எழுத்தாளர்களின் புகைப்படங்களும், கதைகளும் காண முடிந்தது .பிரைலி எழுத்து முறையும், ஆடியோ வழியாக கேட்டு தெரிந்து கொள்ளும் முறையும் மாற்றுத்திறனாளிகளுக்கான பிரிவில் இடம் பெற்றுள்ளன.

துறை வாரியான புத்தகங்கள் அதாவது பொருளாதாரம், அரசியல் ,வரலாறு, புவியியல், இலக்கியம், கதைகள், வாழ்க்கை வரலாறு புத்தகங்களை பார்வையிட்டனர். இணையதள பிரிவிற்குச் சென்று இணையதளத்தில் தேவையான புத்தகங்களை நகல் எடுப்பதற்கும் மேலும் தேவையான தகவல்களை இணையத்தில் இருந்து பதிவிறக்கம் செய்யவும் பயன்படுத்த முடியும் என்பதை

தெரிந்து கொண்டனர். அடுத்ததாக மாணவர்கள் போட்டி தேர்வுக்கு தேவையான புத்தகங்கள் உள்ளதையும் மாணவர்கள் குறிப்பெடுப்பதையும் காண முடிந்தது. விருச்சுவல் ரியாலிட்டி லாங்குவேஜ் நூலகம் அதில் மாணவர்கள் கண்கவர் காட்சிகளை பார்வையிட்டனர். போட்டி தேர்வுக்கு நூலகம் எவ்வாறு பயன்படுகிறது என்பதனை அறிந்து கொண்டனர்.



செயல்பாடு 2

நூலகம் தோன்றிய வரலாறு

நூலகம் தோன்றிய வரலாற்றினை வகுப்பறையில் வீடியோவாக காண்பித்தோம். இதில் பாபிலோனியர்கள் காலத்தில் இருந்து நூலகங்கள் எவ்வாறு உருவானது என்பதை காணொளி மூலம் மாணவர்கள் வகுப்பறையில் அறிந்து கொண்டனர்.





செயல்பாடு 3

பள்ளி மாத இதழ்கள் வாசிப்பு

பள்ளிக்கு வரும் ஊஞ்சல், தேன்சாட்டு , கனவு ஆசிரியர் போன்ற இதழ்களை ஒவ்வொரு மாணவருக்கும் கொடுத்து அதை படித்து புரிந்து கொண்டு சொல்லுதல் மற்றும் வாசித்தல்.



செயல்பாடு 4

வினா இங்கே விடை எங்கே

நூலகம் சார்ந்த வினாக்களை மாணவர்களுக்கு திரையில் காண்பித்து இரண்டு நிமிடத்திற்குள் விடையை கண்டுபிடிக்கச் சொல்லுதல். மேலும் சரியான விடைகளை தெரிந்து கொள்ள முடியும்.



செயல்பாடு 5

வாங்க பேசலாம்

திரு .இறையன்பு ஐ.ஏ.எஸ் அவர்கள் எழுதிய புத்தகங்களை அனைத்து மாணவர்களுக்கும் பரிசாக கொடுத்து அவர்கள் புத்தகத்தை படித்து சொல்ல சொல்லுதல்.



பள்ளி நூலகத்தில் உள்ள புத்தகங்களை மேசை மீது அடுக்கி வைத்து, அடுக்கி வைத்த புத்தகங்களின் பெயர்களை காகிதத்தில் தனித்தனியே எழுதி ஒரு பெட்டியில் போடவும். ஒவ்வொரு மாணவரையும் அழைத்து ஒரு துண்டு சீட்டினை எடுக்க சொல்லுதல். அவர்கள் எடுத்த சீட்டில் என்ன புத்தகங்கள் வந்துள்ளன என்பதை கண்டுபிடிக்கச் சொல்லி அவற்றை எடுத்து படிக்க சொல்ல வேண்டும்.



தரவு பகுப்பாய்வு

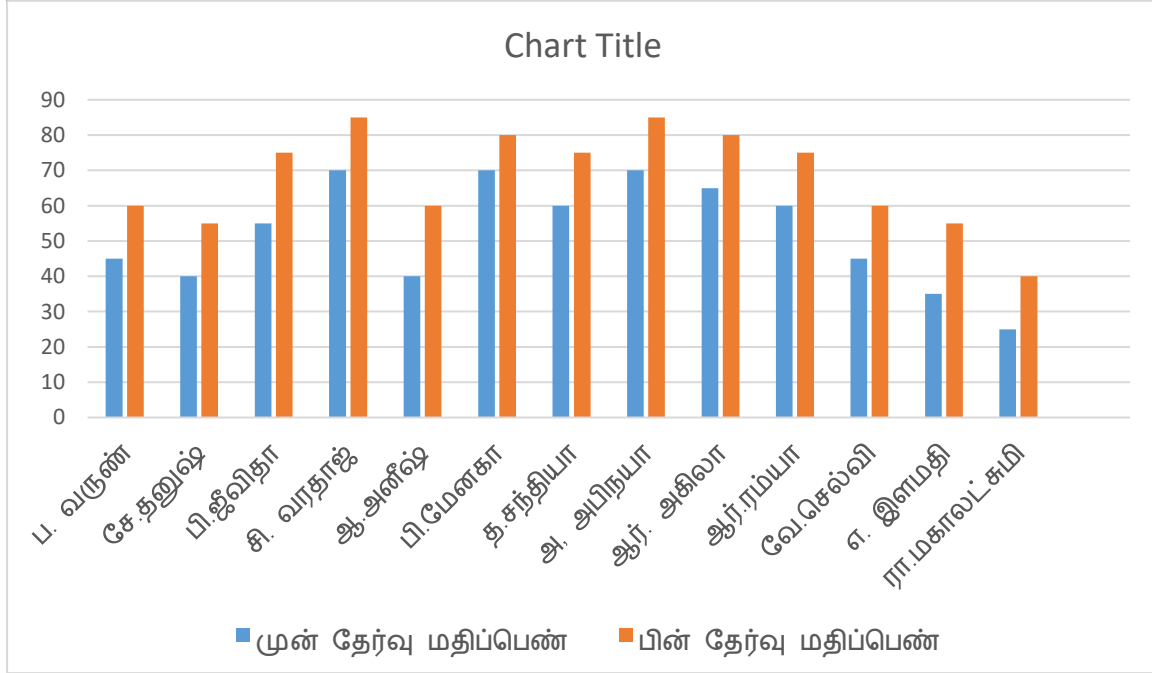
முன் தேர்வு மற்றும் பின் தேர்வு மதிப்பெண்கள் அடிப்படையில் பகுப்பாய்வு செய்யப்பட்டுள்ளது

முன் தேர்வு மற்றும் பின் தேர்வு மதிப்பெண்கள் விவரம்

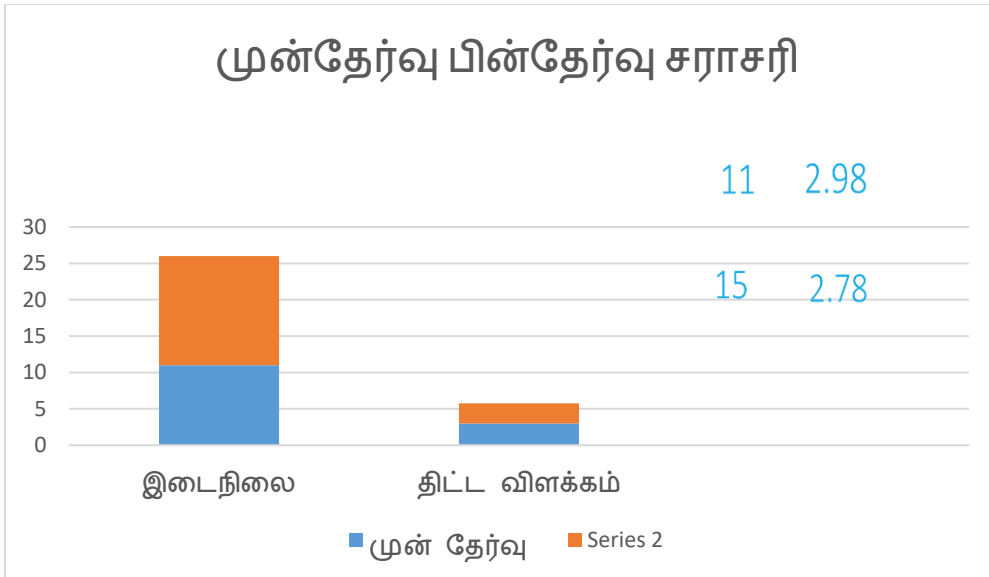
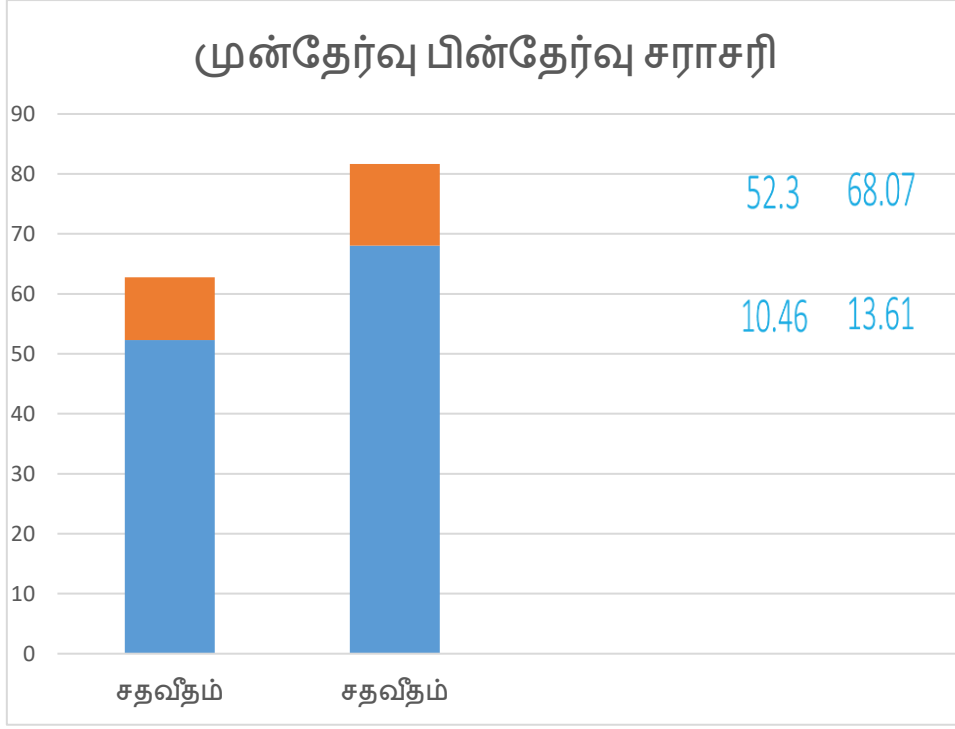
அட்டவணை 2

வ.எண்	மாணவர்களின் பெயர்	முன் தேர்வு மதிப்பெண்	பின் தேர்வு மதிப்பெண்
1	ப. வருண்	45	60
2	சே. தனுஷ்	40	55
3	பி. ஜீவிதா	55	75
4	சி. வரதராஜ்	70	85
5	ஆ. அனீஸ்	40	60
6	பி. மேனகா	70	80
7	த. சந்தியா	60	75

8	அ. அபிநயா	70	85
9	ஆர். அகிலா	65	80
10	ஆர். ரம்பா	60	75
11	வே. செல்வி	45	60
12	எஸ். இளமதி	35	55
13	ரா.மகாலட்சுமி	25	40



தேர்வு	சதவீதம்	சராசரி	இடைநிலை	திட்ட விளக்கம்
முன் தேர்வு	52.3	10.46	11	2.98
பின் தேர்வு	68.07	13.61	15	2.78



தீர்வுகள்

- முன் தேர்வு சதவீதம் 52.3 % பின் தேர்வு 68.07 % உள்ளது
- முன் தேர்வு சராசரியானது 10.46 பின் தேர்வு சராசரி 13.61.
- முன் தேர்வு இடைநிலை 11 பின் தேர்வு இடைநிலை 15 ஆக உள்ளது.
- முன் தேர்வு சராசரியின் திட்ட விளக்கமானது 2.98 பின் தேர்வு திட்ட விளக்கம் 2.78 ஆகும்.

கல்விசார் செயல்பாடுகளும் ஆலோசனைகளும்

ஆசிரியர் மாணவர்களை நூலகப் பயணம் அழைத்துச் செல்வதன் மூலம் வாசிப்புத்திறனை மேம்பாடு அடைய செய்யலாம்.

பள்ளி இதழ்கள் தேன்சிட்டு, ஊஞ்சல், கனவு ஆசிரியர் இவற்றை படிக்க சொல்லி அனைத்து மாணவர்களையும் கூறச் செய்வதன்மூலம் மற்ற புத்தகங்களையும் படிக்கும் பழக்கம் ஏற்படும்.

நூல்களை வாசிக்க செய்தல், படித்தவற்றை கோர்வையாக கூறச் செய்தல், கதைகளை தொடர்பு படுத்தி கூறுதல் ஆகிய மூன்று செயல்களும் ஒன்றாக நடைபெறுவதால் நூலகத்தில் உள்ள புத்தகங்களை வாசிக்கும் திறனும் இயல்பாக மேம்படுகிறது.

செயலாராய்ச்சி பரிந்துரைகள்

தற்போதைய செயலாய்வு நடுநிலைப்பள்ளி மாணவர்களுக்கு நடத்தப்பட்டது தொடக்கநிலை மாணவர்களுக்கு இச்செயலாய்வினை மேற்கொள்வதன் மூலம் நூலகத்தினை பயன்படுத்துவார்கள் நூலக பயணம் மூலமாகவும் எழுத்து மற்றும் வாய்மொழி தேர்வு மூலம்

பரிசோதனை முறையிலும் அடிப்படையில் செயலாய்வு மேற்கொள்ளப்பட்டது . பிற ஆய்வு முறைகளையும் பயன்படுத்தலாம்.

முடிவுரை

தற்போதைய செயலாய்வு செயலாய்வாளர் முன்வைத்த பரந்த கருதுபோனை வழப்படுத்துகிறது நூலகப் பயணம் மூலமாக நூலக பயன்பாட்டினை தெரிந்து கொள்கிறார்கள். நூலகத்தினை பயன்படுத்துவதன் மூலம் வாசிப்பு திறன் மேம்பாடு அடைகிறது. இவ்வாறு பாட புத்தகம் தவிர பல்வேறு புத்தகங்களை படிப்பதன் மூலம் உயர்நிலை திறன்களைப் பெறவும் படைப்பாற்றலை மேம்படுத்தவும் முடியும். எட்டாம் வகுப்பு மாணவர்களுக்கு நூலகப் பயன்பாடானது நூலகப் பயணம், மற்றும் வீடியோக்கள், செயல்பாடுகள் மிகவும் பயனுள்ள வகையில் அமைந்துள்ளது. எட்டாம் வகுப்பு மாணவர்கள் நூலகத்தினை சிறப்பாக பயன்படுத்தி பயனடையுமாறு இந்த செயல் ஆராய்ச்சியானது அமைந்துள்ளது

இணைய இணைப்புகள்

<https://www.youtube.com/watch?si=cslBhIggkcYVMcNf&v=fvoTrJQACvM&feature=youtu.be>

<https://www.youtube.com/watch?si=xr3g5qmTqHcavDjD&v=QxD3HBnjiEg&feature=youtu.be>

முன்தேர்வு



பின்தேர்வு



மாவட்ட ஆசிரியர் கல்வி மற்றும் பயிற்சி நிறுவனம் ,
பாடாலூர்
ஊராட்சி ஒன்றிய நடுநிலைப்பள்ளி, அருமடல்

மொத்த வினாக்கள் 20

நேரம் 30 நிமிடங்கள்

1. நூலகங்களில் நாம் நுழையும் போது கையொப்பமிடும் முதல் பதிவேட்டின் பெயர் என்ன?

- அ. வருகைப் பதிவேடு ஆ. நுழைவுப் பதிவேடு
இ. நாள் பதிவேடு ஈ. குறிப்புப் பதிவேடு

2. நூலக உறுப்பினராக சேர்வதற்கு என்ன செய்ய வேண்டும்?

- அ. அறிவாளியாக இருக்க வேண்டும்
ஆ. நூலக உறுப்பினர் படிவத்தில் கையெழுத்திட வேண்டும்
இ. படித்து இருக்க வேண்டும்
ஈ. ஆசிரியராக இருக்க வேண்டும்.

3. நூலகங்களில் படிக்கும் போது எதை செய்யக் கூடாது?

- அ. சாப்பிட வேண்டும் ஆ. பேசக்கூடாது
இ. சிரிக்க வேண்டும் ஈ. விளையாட வேண்டும்

4. நூலக உறுப்பினராக சேர்ந்த பின் எதை எடுத்துக் கொண்டு நூலகத்திற்கும் செல்ல வேண்டும்.

- அ. மிட்டாய் ஆ. கணித உபகரண பெட்டி
இ. டிபன் பாக்ஸ் ஈ. உறுப்பினர் அட்டை

5. நூலகத்திற்கு நோட்டும் பெண்ணும் எடுத்துச் சென்று எதை எழுத வேண்டும்?

- அ. நண்பர்களின் பெயர் ஆ. ஆசிரியரின் பெயர்
இ. அப்பாவின் பெயர் ஈ. முக்கிய குறிப்புகள்

6. நூலக புத்தகங்களை எத்தனை நாட்களில் திருப்பி தரவேண்டும்.

- அ. 2 நாட்களில் ஆ. 3 நாட்களில்
இ. 15 - 30 நாட்களில் ஈ. திருப்பி செலுத்த தேவையில்லை

7. நூலக புத்தகங்களை எப்படி வைத்திருக்க வேண்டும்.

- அ. பிரித்து வைத்திருக்க வேண்டும் ஆ. அட்டை போட வேண்டும்
இ. பாதுகாப்பாக வைத்திருக்க வேண்டும் ஈ. மேலே வைத்திருக்க வேண்டும்

8. நூலகத்தில் நுழையும் போது எதைப் பதிவேட்டில் குறிப்பிட வேண்டும்

- அ. நுழையும் நேரம் ஆ. பிறந்த நேரம்

இ. பள்ளி நேரம் ஈ. பார்வை நேரம்

9. நூலகத்தில் புத்தகம் தேவையெனில் யாரை அணுக வேண்டும்.

அ. நூலகர் ஆ. ஆசிரியரை

இ. மருத்துவரை ஈ. அப்பாவை

10. அடிக்கடி நூலகம் சென்று வந்தால் நம்மிடம் வளர்வது என்ன?

அ. முடி ஆ. அறிவு

இ. சொந்தங்கள் ஈ. செடி

11. நூலகத்தில் புத்தகங்களை கடன் வாங்கும் போது எந்தப் பதிவேட்டில் குறித்துக் கொள்வர்.

அ. புத்தகம் கடன் பெறும் பதிவேடு ஆ. நுழைவாயில் பதிவேடு

இ. பார்வையாளர் பதிவேடு ஈ. கண்டறிய முடியா புத்தகப் பதிவேடு

12. முன் பதிவு செய்த புத்தகங்களை யார் வேண்டுமானாலும் பெற முடியுமா?

அ. முடியும்

ஆ. முடியாது

இ. முன் பதிவு செய்தவர்கள் மட்டும் பெற முடியும்

ஈ. தெரியவில்லை

13. புத்தகங்களைக் குறிப்பிட்ட தேதி முடிந்ததும் திருப்பிச் செலுத்த வில்லை என்றால்

அபராதம் செலுத்த வேண்டுமா?

அ. செலுத்த தேவையில்லை ஆ. ஆம் குறைந்தது ரூ 1 முதல்

இ. நாளொன்றுக்கு ரூ 5 ஈ. தெரியவில்லை

14. தமிழ்நாட்டில் பெரிய நூலகம் எது?

அ. அண்ணா நூலகம் ஆ. கலைஞர் நூலகம்

இ. கன்னிமரா நூலகம் ஈ. தஞ்சை சரஸ்வதி மகால்

15. நூலகத்திற்கு எத்தனை வாசல்கள் இருக்கும்?

அ. 2 ஆ. 3 இ. 1 ஈ. 4

16. பார்வையற்ற மாணவ மாணவிகளின் தேசிய நூலகம் எங்குள்ளது?

அ. கேரளா ஆ. மும்பை

இ. டேராடீன் ஈ. டெல்லி

17. நூலக வாசிப்பில் அதிக நேரம் செலுத்தியவர் யார்?

அ. அம்பேத்கர் ஆ. அண்ணா

இ. காந்தியடிகள் ஈ. காமராஜர்

18. நூலகத்திற்குள் நாம் நமது சொந்த புத்தகங்களை எடுத்துச் செல்லலாமா?

அ. எடுத்துச் செல்லலாம் ஆ. எடுத்துச் செல்லக் கூடாது

இ. மறைவாக எடுத்துச் செல்லலாம் ஈ. தெரியவில்லை

19. நூலகத்திற்குள் செல்லும் முன் தமது பொருட்களை வைக்கும் அறையின் பெயர் என்ன?

அ. புத்தக அறை ஆ. நூலகர் அறை

இ. கழிவறை ஈ. வைப்பறை

20. சிறிய நூலகத்திலிருந்து ஒருவர் எத்தனை புத்தகங்களைப் கடன் பெறலாம்.

அ. 2 ஆ. 1 இ. 3 ஈ. 4

**ENHANCING THE UNDERSTANDING LEVEL OF
ADAPTATION OF BIRDS AMONG VI STANDARD STUDENTS**

ACTION RESEARCH REPORT

ACTION RESEARCHER

K. THILAGAM, M.Sc., M.Ed., M.Phil.

LECTURER,

DIET, PADALUR- PERAMBALUR

SUBMITTED TO

STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING, CHENNAI-6

MARCH-2024

ACKNOWLEDGEMENT

I express sincere thanks to our respectful **Director, SCERT** and Joint Directors, SCERT, for permitted me to take up this study and granted finance.

I extend my thanks to the principal Mr. K. RAJA, DIET, Padalur and former principal Mr. P. MAYILVAHANAN to permit me to complete this work.

I am thankful to HM of PUMS, Vijayagopalapuram, Alathur Block and their colleagues for co-operate with completion of Action Research work.

I thank my colleagues for their suggestions in completing this work.

Place:

Signature of the Investigator

Date:

DECLARATION

I hereby declare that Action Research entitled **“Enhancing the Understanding Level of Adaptation of Birds among VI Standard Students”**, is submitted by me to the SCERT Chennai in the year 2023 – 2024 is the result of our original and independent Action Research work carried out under the Principal, DIET, Padalur. This work has not submitted earlier for completing any Action Research work or other similar titles in this or any other institution.

March -2024

Signature of the Action Researcher

Mrs. K. Thilagam,
Lecturer,
DIET, Padalur - Perambalur

CERTIFICATE

Mr. K. Raja

Principal

DIET, Padalur - Perambalur.

Certified that this Action Research work entitled “Enhancing the Understanding Level of Adaptation of Birds among VI Standard Students”, is done by Mrs. K. Thilagam, Lecturer, DIET, Padalur - Perambalur, the report has been submitted to state Council of Educational Research and Training, Chennai-6.

Principal

DIET, Padalur.

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Enhancing the Understanding Level of Adaptation of Birds among VI Standard Students

1.0 INTRODUCTION

Action research is one of those terms that we hear quite often in today's educational circles. Typically, action research is undertaken in a school setting. It is a reflective process that allows for inquiry and discussion as components of the "research." Often, action research is a collaborative activity among colleagues searching for solutions to everyday, real problems experienced in schools, or looking for ways to improve instruction and increase student achievement. Rather than dealing with the theoretical, action research allows practitioners to address those concerns that are closest to them, ones over which they can exhibit some influence and make change.

Practitioners are responsible for making more and more decisions in the operations of schools, and they are being held publicly accountable for student achievement results. The process of action research assists educators in assessing needs, documenting the steps of inquiry, analyzing data, and making informed decisions that can lead to desired outcomes.

Human learning begins before birth and continues until death as a consequence of ongoing interactions between person and environment. The nature and processes involved in learning are studied in many fields, including educational psychology, neuropsychology, experimental psychology,

and pedagogy. Research in such fields has led to the identification of various sorts of learning.

Most of the Upper primary students have difficulties in learning science when we taught only abstracts. We need to enhance the students Science learning with appropriate teaching techniques. By using Technology is the most effective way to enhance the understanding level in the teaching – learning process of science.

To enhance the understanding level of Science is very important. An effective science lesson requires planning engaging activities, navigating tricky science concepts, anticipating and working with students' preconceptions and misconceptions, and making difficult decisions on the fly. Good teaching is an art-one performed by those with specialized knowledge and skills. Some of the complex issues in the field of science education include the availability of appropriate textbooks and classroom resources; the preparation and training of science teachers. To gain the knowledge about adaptation of birds is essential one because we should know about the adaptation of animals to the environment, then only we can take steps to preserve the environment and maintain the Eco-balance.

2.0 STATEMENT OF THE PROBLEM

When the investigator had visited the school she tested the students of standard VI to identify the level of understanding .In this classroom $\frac{1}{4}$ of the students were understand the concept adaptation of birds in the way of proper manner. $\frac{2}{4}$ of the students were having average level of understanding skills. The remaining $\frac{1}{4}$ of the students were not able to understand the concept adaptation of birds. Hence the investigator decided to develop the understanding skill of the low

achievers of **standard VI in PUMS, Vijayagopalapuram, Alathur block** through using Educational Technology.

3.0 IDENTIFICATION OF THE PROBLEM

Students of VI standard were asked to write an achievement test on the concept adaptation of birds. The investigator constructed a questionnaire for conducting achievement test. Out of 8 students, 2 students only were scored above average. Another 6 were can not able to understand the concept properly. They were sitting simply. They answered improperly. Hence the investigator decided to take up this problem for her study.

4.0 PIN-POINTING OF THE PROBLEM

The investigator met the students of standard VI and asked them to explain the concept adaptation of birds. The 2 students who are above average only can explain the concept adaptation of birds. Then the investigator came to the conclusion that the student's basic problem is the lack of understanding. Hence the problem of study is coined as **“Enhancing the Understanding Level of Adaptation of Birds among VI Standard Students”**.

5.0 DIAGNOSIS THE CAUSES OF THE PROBLEM

1. Lack of proper technologies in teaching science for the abstract concepts.
2. The teacher may not use proper methodology to teach the concept.
3. Insufficient usage of proper Technology to explain the concept.

4. Inadequate usage of innovative techniques.

6.0 OBJECTIVES OF THE STUDY

The objectives of the study are

- To identify the understanding level of **Adaptation of Birds** among VI standard students.
- To Develop appropriate strategies by incorporating ICT .
- To implement the strategies to enhance the understanding level of **Adaptation of Birds** among VI standard students.
- To assess the student's understanding level of **Adaptation of Birds** among VI standard students.

7.0 THE ACTION PLAN

A. Sample

Students who scored low marks in the achievement test which was conducted by the investigator in **standard VI of Panchayath Union Middle School, Vijayagopalapuram, Alathur Block, Poreambalur District**. The sample size was eight only.

B. Tool used

The tool used to measure the level of achievement / Performance attained by the students. The tool consists of twenty questions and each question carry one mark. All questions were in objective type such as Choose the best, Matching, True/False and Fill in the blanks.

8.0 MEASURING THE PREVIOUS KNOWLEDGE

The investigator decided to know the understanding level of the concept that the concept adaptation of birds. For that the investigator conducted the Pre-Test to the controlling group.

9.0 IMPLEMENTATION OF THE ACTIVITIES

Investigator used the innovative teaching techniques and asking questions for better understanding of the concepts.

By using Educational Technology based activities were conducted for the students to teach the concept **Adaptation of birds**.

ACTIVITY: 1

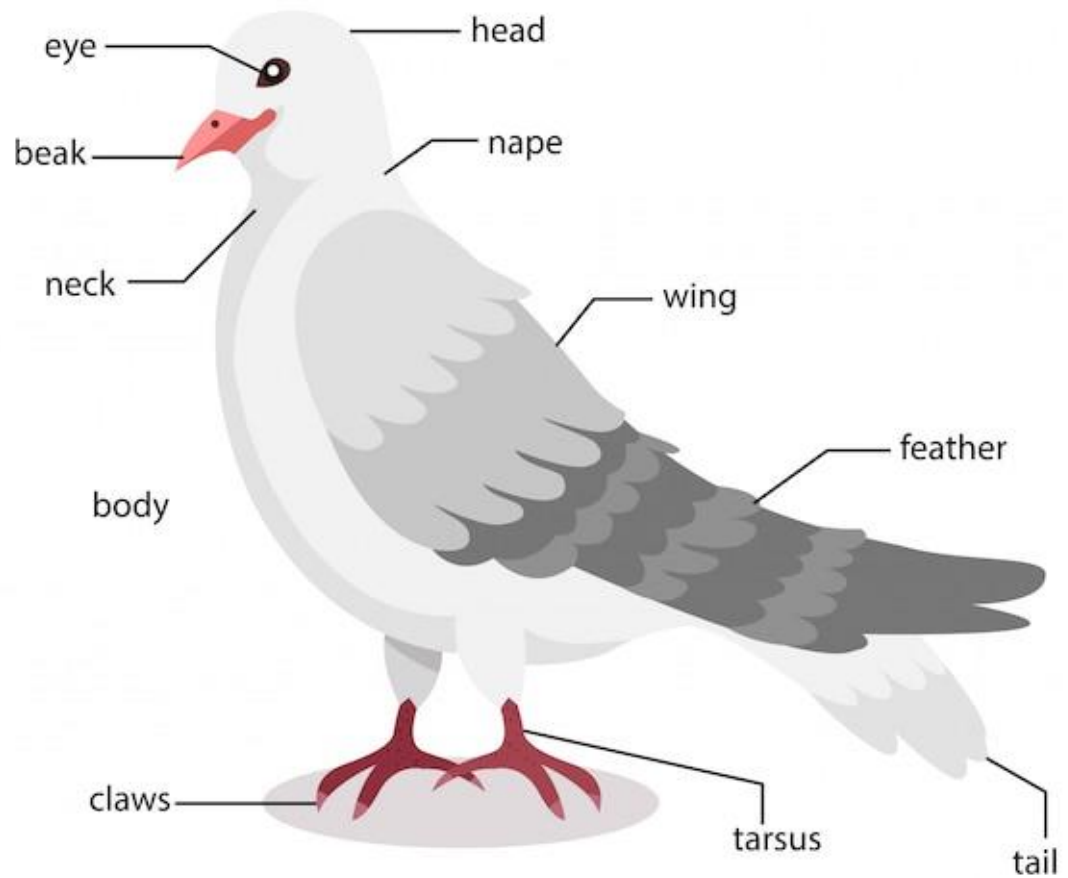
The investigator asked questions to the students about animals' locomotion.

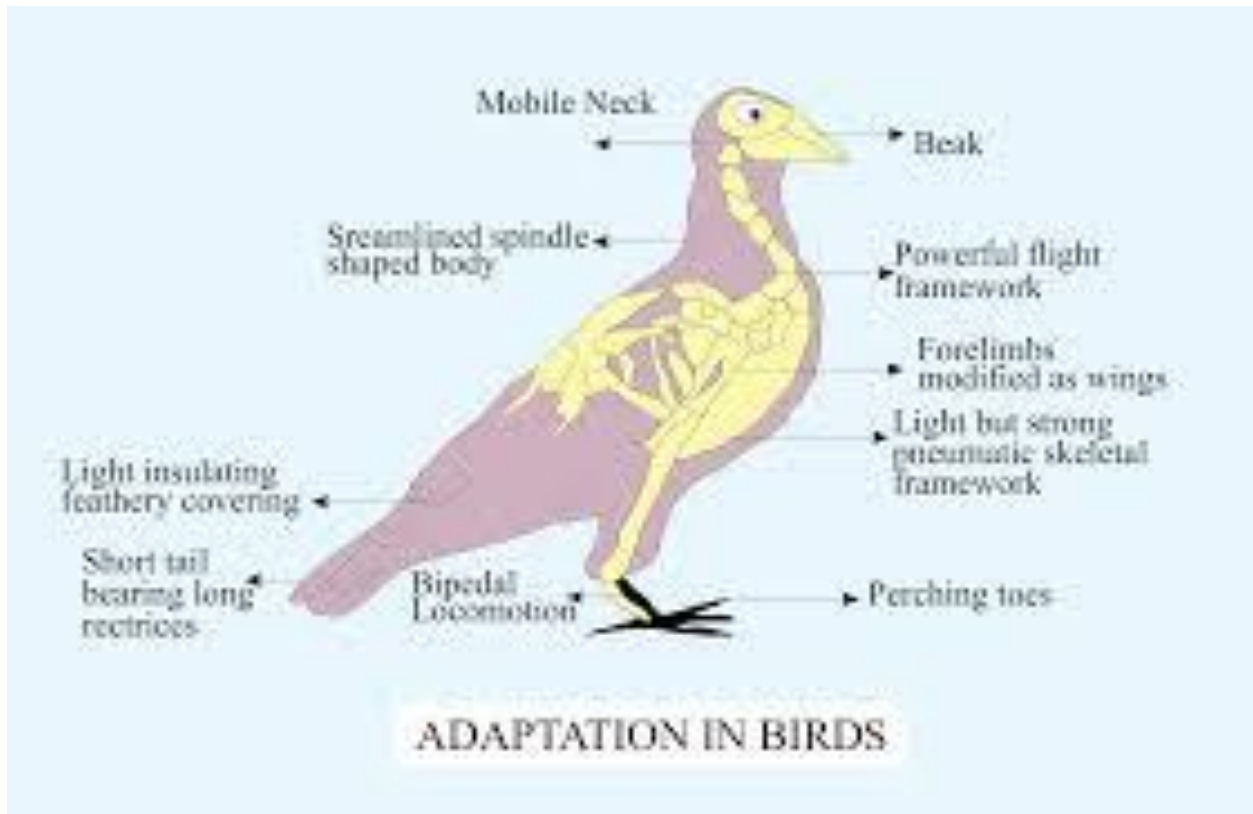
ACTIVITY: 2

The investigator explained about the flying adaptations of birds.

Explained the body parts and shape of the Birds

Body Parts of Bird





ACTIVITY: 3

- The investigator arranged a small discussion on why can't we fly?

ACTIVITY: 4

1. The investigator asked the students to observe the picture. And investigator explained about the modification of forelimbs as wings in Birds

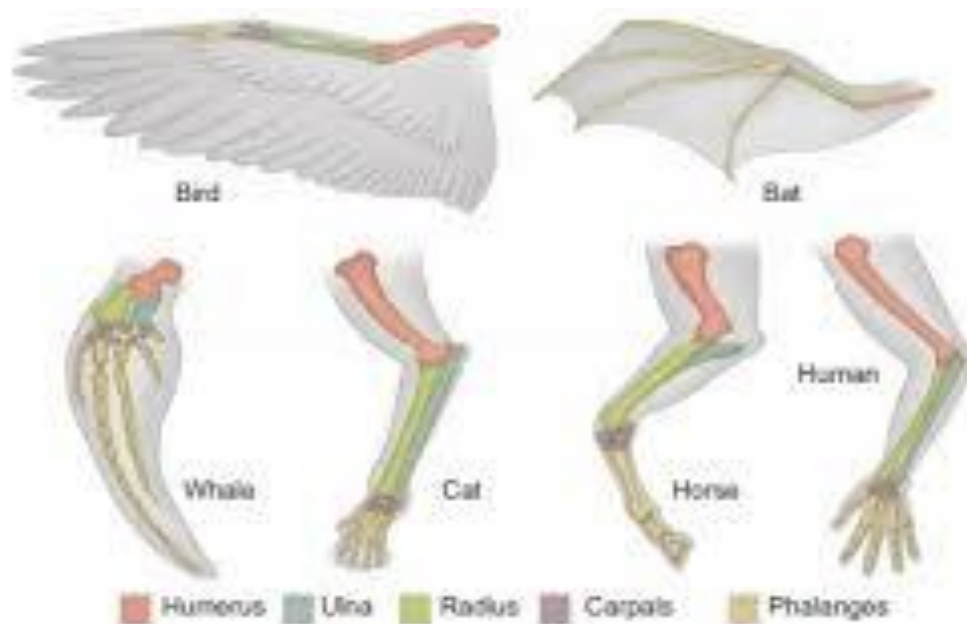
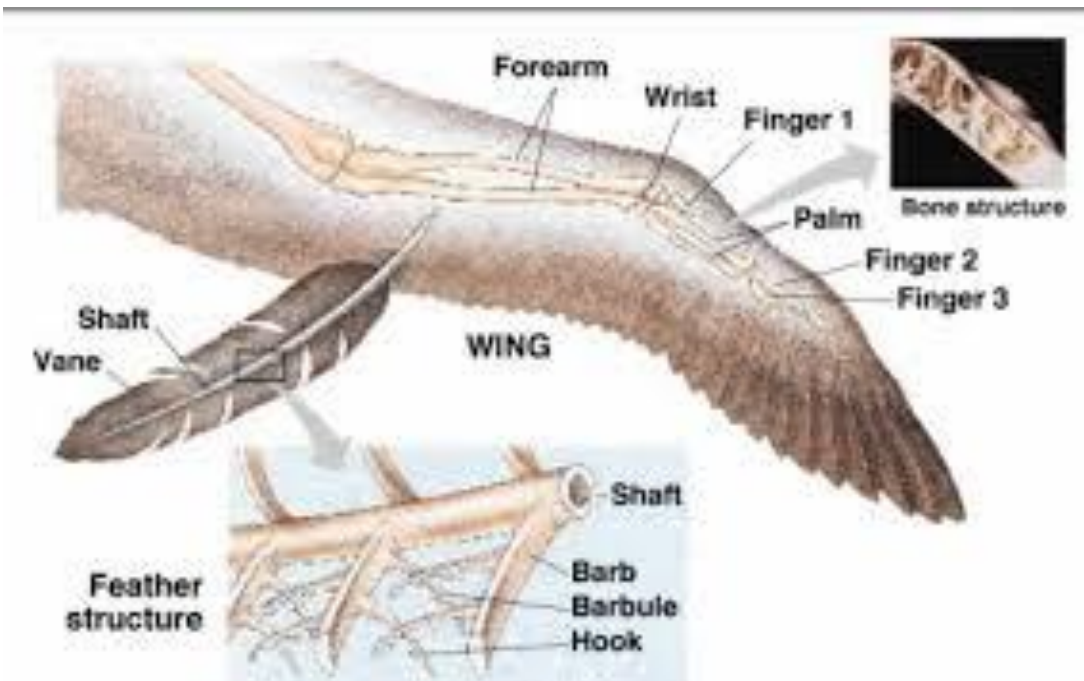


Fig. 6.2 Forelimbs of terrestrial vertebrates to show homology



ACTIVITY: 5

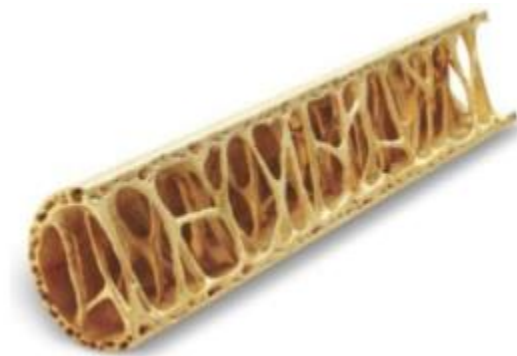
The investigator asking probing questions as follows

- 1. How a Bird fly in the sky with his body weight ?**
- 2. How can a Bird change its direction when its flying ?**
- 3. Why the mouth changed as a beak in birds?**

The investigator explained the above things



Hollow Bone



ACTIVITY: 6

The investigator taught about the concept of Adaptation in Birds.

And also, the investigator shows the related videos.

10.0 CONDUCTION OF POST-TEST:

Post test was conducted after the effect of the treatment. 8 VI standard students were wrote the post test in Panchayat Union Middle School, Vijayagopalapuram, Alathur Block, Perambalur District.

11.0 ANALYSIS OF DATA

The collected data was analysed applying Mean and Average. The results presented in the following tables. The marks in pre-test and post-test of low achievers in standard VI who were selected as sample in the study were given below.

Table : 1 SCORES OF THE PRE-TEST AND SPOST-TEST OF THE STUDENTS

Sl.No	Students Name	GENDER	Pre – test	Post-test
1	M. HARSHINI	Female	32	93
2	R. DHIVYA	Female	42	84
3	R. RAMYA	Female	35	77
4	R. ASVITHA	Female	37	85
5	M. KABISHRAJ	Male	34	82
6	R. RAGAVAN	Male	39	83
7	S. SHIVA	Male	25	74
8	M. SRI HARIKRISHNAN	Male	43	92

From the table 1 it is understood that the Mean value of pre-test is **35.88** whereas it is **83.75** for the post-test.

Table: 2

RANGE OF PRE-TEST

Sl.No	Marks	No. of Students	Percentage
1	21-30	1	13%
2	31-40	5	62%
3	41-50	2	25%

The table 2 shows that 1 student scored between 21 and 30 and 5 students scored between 31 and 40 and 2 students scored between 41 and 50. The lowest mark is 25 in the achievement.

Figure 1

BAR DIAGRAM FOR DISTRIBUTION OF PRE-TEST SCORES

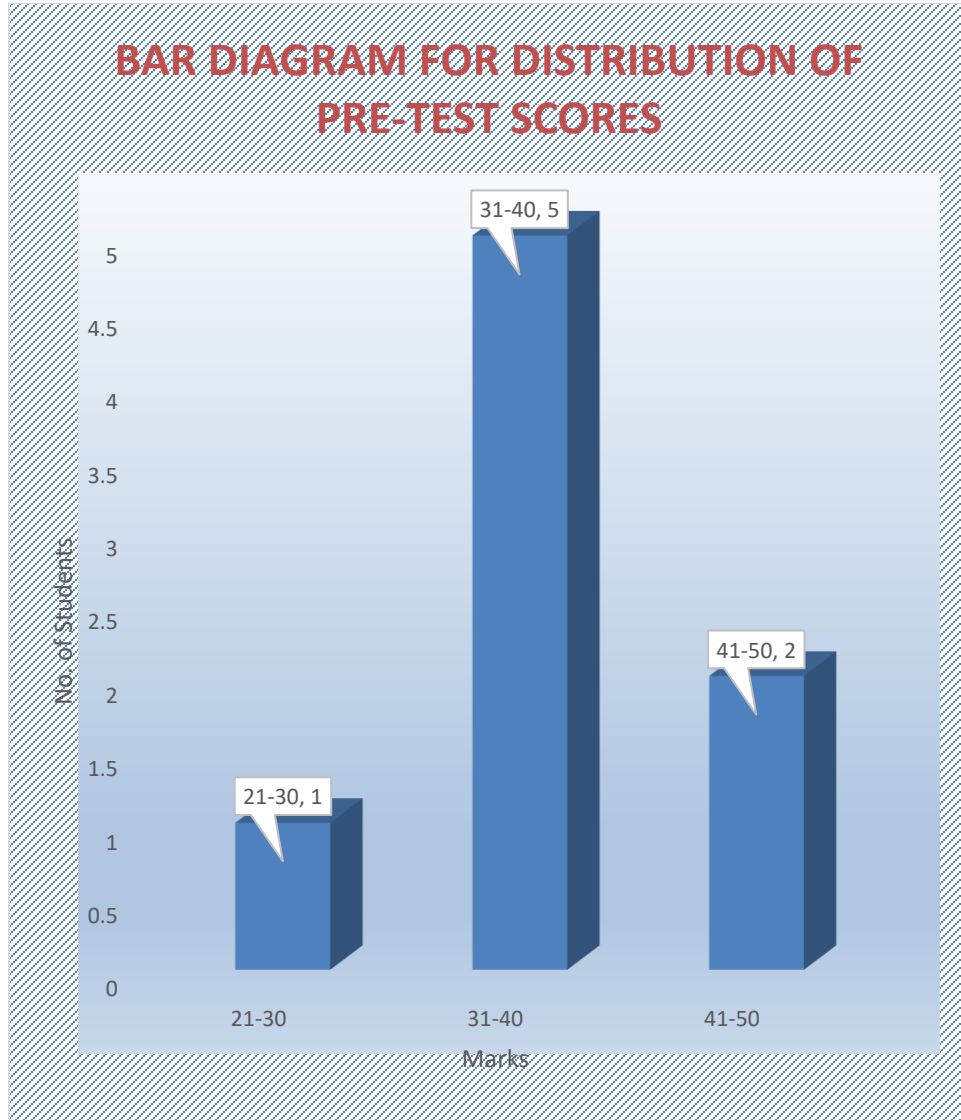


Table: 3

RANGE OF POST-TEST

Sl.No	Marks	No. of Students	Percentage
1	71-80	2	25%
2	81-90	4	50%
3	91-100	2	25%

The table 3 shows that 2 students scored between 91 – 100 in the post-test. and 4 students scored between 81 – 91 in the post-test. The remaining 2 students scored between 71-80.

Figure 2

BAR DIAGRAM FOR DISTRIBUTION OF POST-TEST SCORES

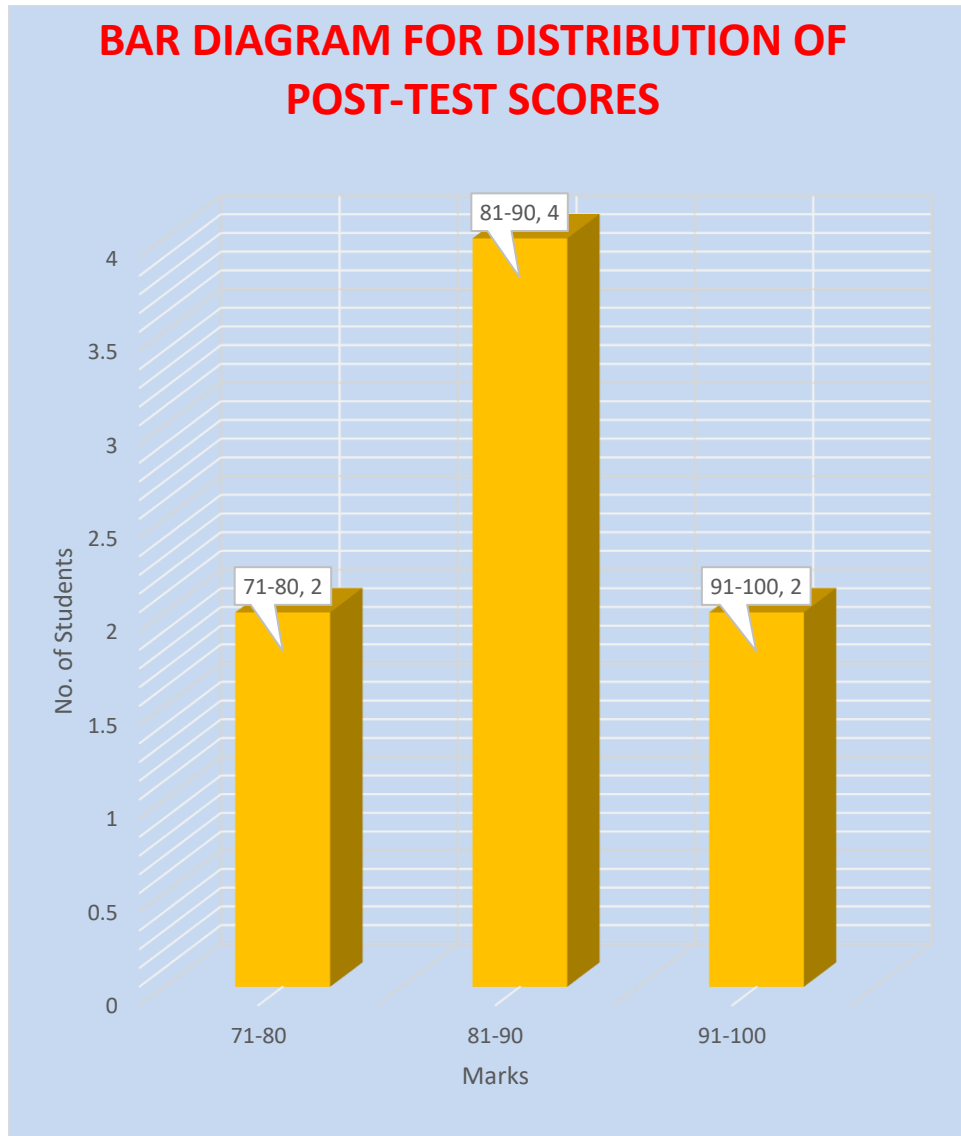


Figure 3

DIFFERENCE BETWEEN PRE TEST AND POST TEST ACHIEVEMENT SCORE

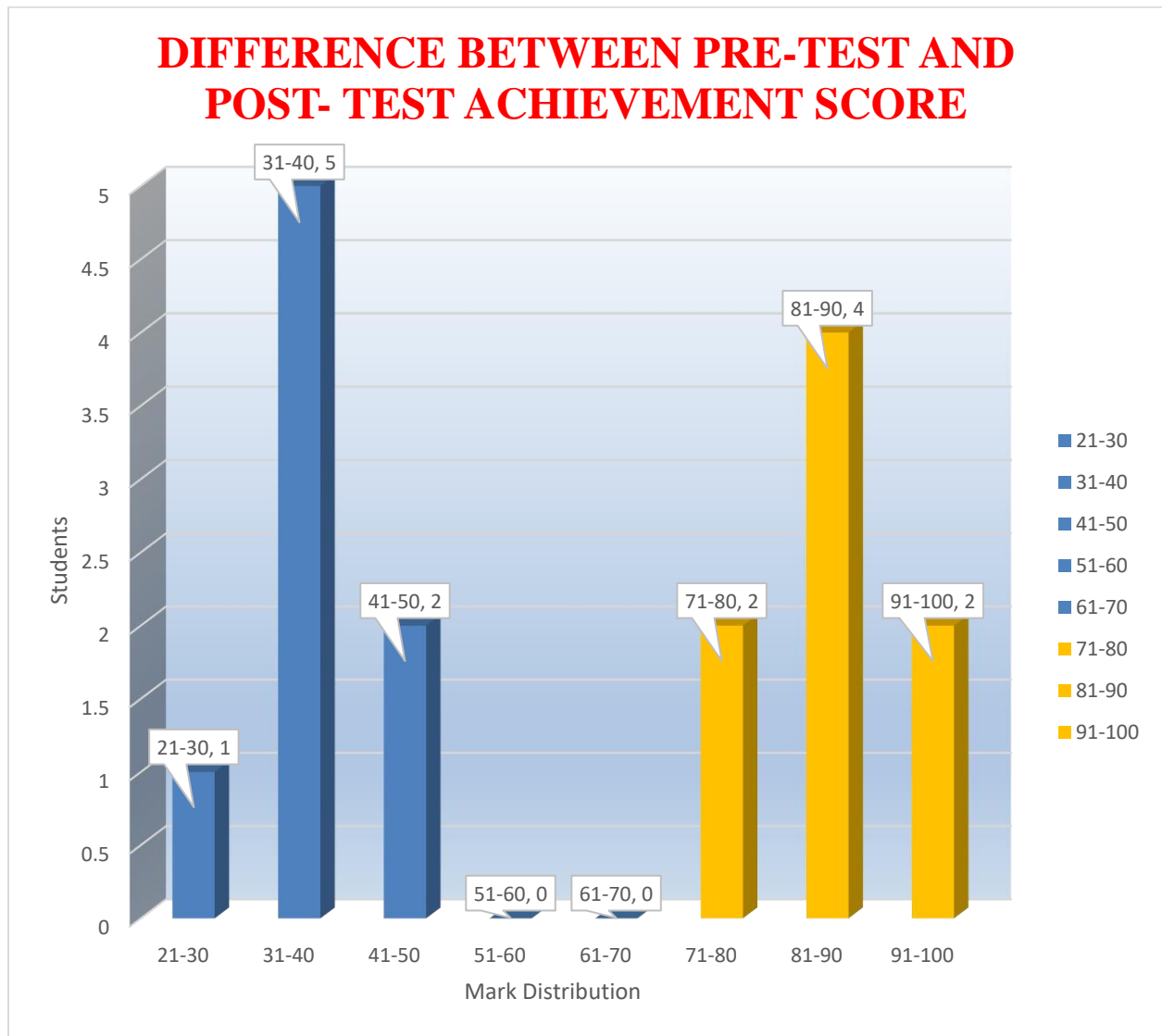
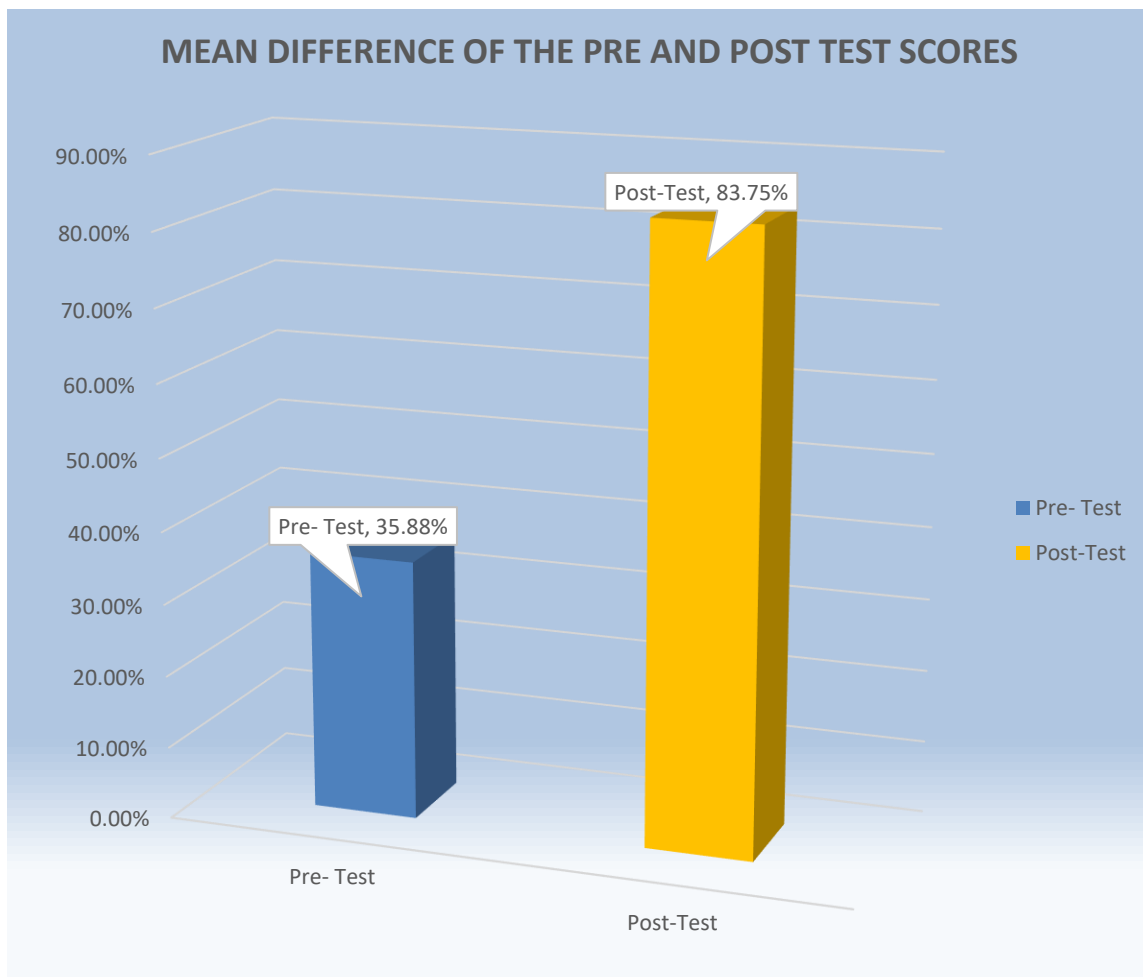


Table 4

MEAN DIFFERENCE OF THE PRE AND POST TEST SCORES OF THE STUDENTS

Sl.No	Category	Mean
1	Pre- Test	35.88
2	Post-Test	83.75

Figure 4 MEAN DIFFERENCE OF THE PRE AND POST TEST SCORES OF THE STUDENTS



12.0 FINDINGS

- ▶ The study reveals that the scores gained by the students in the post test were more than the scores obtained in the pre- test, from this it is understood that there is a very good impact due to use of ICT in teaching.
- ▶ The low achievers were understood the Adaptation of Birds .
- ▶ The techniques followed during the treatment has helped to create interest, understanding and manipulative skill among the students and helped to gain more mark in the post – test.
- ▶ Through virtual strategies the achievement level of the understanding of Adaptation of Birds was increased among VI standard students.

13.0 FOLLOW-UP AND CONCLUSION

From this study we concluded that the Educational Technology helps the students to improve their understanding level. While the teacher teaching with education technology to the primary students we can attract the student's attention more than the traditional teaching methods. And also the students involve in learning process themselves with more eagerness. So the teachers must use the educational technology like videos, animated pictures, animated videos and clippings effectively in their class room activities.

REFERENCE:

1. VI standard Science Text book,(2019) *Tamil Nadu Text Book Corporation*, College road, Chennai-6
2. XII standard Biology Text book – II year(2012) *Tamil Nadu Text Book Corporation*, College road, Chennai-6
3. Internet browsing about “the concept of Adaptation in Birds”.

APPENDIX - I



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APPENDIX - II

மாவட்ட ஆசிரியர் கல்வி மற்றும் பயிற்சி நிறுவனம்

பாடாலூர் பெரம்பலூர்
செயலாராய்ச்சி

ஆய்வாளர் பெயர் :

பாடம் மற்றும் வகுப்பு:

மொத்த மதிப்பெண்கள் 20

I. கோடிட்ட இடங்களை நிரப்புக.

10×1= 10

1. விலங்குகள் ஒரு குறிப்பிட்ட வாழிடத்தில் வாழ்வதற்கு ஏற்ப தங்கள் உடலில் பெற்றுள்ள சிறப்பு அமைப்புகளே_____ என்று அழைக்கப்படுகின்றன.
2. பறவைகளின் உடல் _____ ஆல் மூடப்பட்டுள்ளது.
3. பறவைகளின் உடல் அமைப்பு _____ வடிவத்தில் உள்ளது.
4. பறவைகள் _____ மூலம் சுவாசிக்கின்றன.
5. பறவையானது பறக்கும் போது அதனுடைய திசையை கட்டுப்படுத்த _____ உதவுகிறது.
6. பறவைகள் வலசை போதல் _____ மாறுபாட்டினால் ஏற்படுகிறது.
7. ஒரே சமயத்தில் இரண்டு கண்கள் மூலம் இரு வெவ்வேறு பொருட்களை காண்பது _____ என்று அழைக்கப்படுகிறது.
8. பறவையின் _____ இறக்கைகளாக மாறியுள்ளது.
9. பறவைகள் மரக்கிளைகளை இறுக பற்றிக்கொள்ள _____ உதவுகிறது.
10. பறவையின் வாய்க்கு பதிலாக _____ உறுப்பு காணப்படுகிறது.

**ENHANCING THE SKILL OF MEASURING ANGLE
IN THE IMMEDIATE ENVIRONMENT AMONG SIX
STANDARD**

ACTION RESEARCH REPORT

Submitted by

K.REVATHI

Lecturer

DIET-Padalur

Perambalur District



Submitted to

**STATE COUNCIL OF EDUCATIONAL RESEARCH AND
TRAININGCHENNAI - 600 006**

2023 - 2024

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I express my thanks to the Director and the Joint Director of the **State Council of Educational Research and Training** who have given me the opportunity to conduct underline the action research.

I am thankful to the **Principal**, District Institute of Education and Training, Padalur Perambalur District, who has given the guidance to complete Action research as a successful one.

I am also extending my gratitude to the Headmaster, the teacher and students of GHSS Therani in Perambalur district who have given me the support to conduct the action research.

K.REVATHI

Lecturer

District Institute of Education and Training

Padalur

Perambalur District

DECLARATION

I hereby declare that the Action Research report entitled **“ENHANCING THE SKILL OF MEASURING ANGLE IN THE IMMEDIATE ENVIRONMENT AMONG SIX STANDARD”** is an original and independent work done by me and it has not formed the basis for any other programme, action research work (or) any award.

Signature of Reseacher

(**K.REVATHI**)

Lecturer

District Institute of Education and Training

Padalur

Perambalur District

CERTIFICATE

It is Certified that the Action Research report entitled "**ENHANCING THE SKILL OF MEASURING ANGLE IN THE IMMEDIATE ENVIRONMENT AMONG SIX STANDARD**" is an original and independent action research work done by **K.REVATHI**, Lecturer District Institute of Education and Training, Padalur Perambalur District. It has not previously formed the basis for any other action research work or for the award.

Station: Padalur

Date:

Principal

DIET-Padalur

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1.INTRODUCTION

Education is a fundamental pillar of society, serving as the cornerstone for personal development, societal progress, and economic growth. It encompasses a wide range of formal and informal learning experiences that shape individuals' knowledge, skills, attitudes, and values. The goals of education typically include imparting academic knowledge, fostering critical thinking and problem-solving abilities, promoting social and emotional development, and preparing individuals for future roles and responsibilities in their communities and the workforce. Effective education systems aim to provide equitable access to quality education for all, regardless of background or circumstances, with the ultimate aim of empowering individuals to lead fulfilling and productive lives while contributing positively to society.

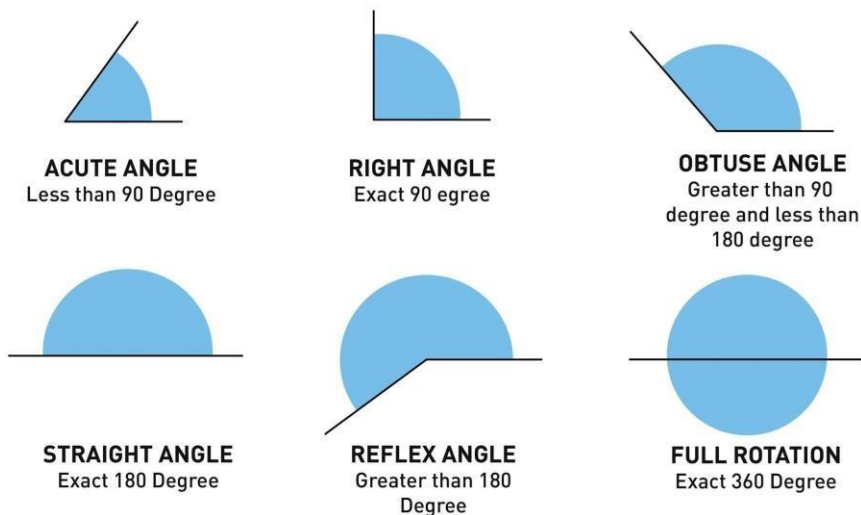
In this study, the focus is on enhancing the skill of identifying angles in the immediate environment among sixth-grade students. Angle identification is a fundamental aspect of geometric understanding, and proficiency in this skill is crucial for further mathematical and spatial reasoning development. By targeting sixth-grade students, the study aims to investigate specific strategies and interventions that can improve angle recognition abilities, leading to more robust geometric reasoning and problem-solving skills in this age group.

ANGLE

Meaning

An angle is a form of geometrical shape, that is constructed by joining two rays to each other at their end-points. The angle can also be represented by three letters of the shape that define the angle, with the middle letter being where the angle actually is (i.e.its vertex). Angles are generally represented by Greek letters such as θ , α , β , etc. Angle measurement terms are – degree $^{\circ}$, radians or gradians. The amount of rotation about the point of intersection of two planes (or lines) which is required to bring one in correspondence with the other is called an Angle.

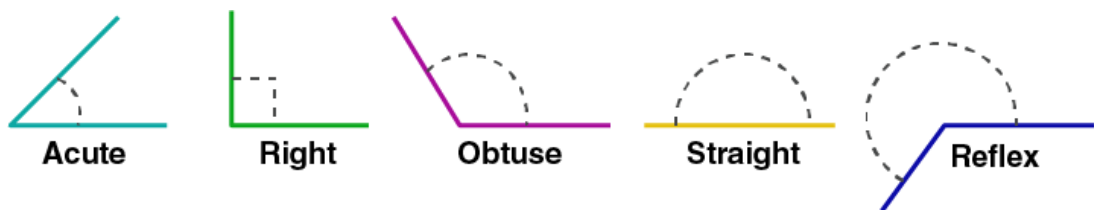
Angles are fundamental geometric concepts that describe the relationship between two intersecting lines, rays, or line segments. They are measured in degrees and play a crucial role in various fields such as mathematics, engineering, architecture, and physics.



Types of Angles

There are majorly six types of angles in Geometry. The names of all angles with their properties are:

- **Acute Angle:** It lies between 0° to 90° .
- **Obtuse Angle:** It lies between 90° to 180°
- **Right Angle:** The angle which is exactly equal to 90°
- **Straight Angle:** The angle which is exactly equal to 180°
- **Reflex Angle:** The angle which is greater than 180 degrees and less than 360 degrees
- **Full Rotation:** The complete rotation of angle equal to 360 degrees



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Angle Measurement:

Angles are measured using a protractor, which has a semicircular scale marked in degrees. The starting point is usually the side of the angle, and the measurement is taken in a counterclockwise direction.

Angle Properties

Angles have several properties, including complementary angles (two angles whose sum is 90 degrees), supplementary angles (two angles whose sum is 180 degrees), adjacent angles (angles that share a common vertex and side but

do not overlap), and vertical angles (opposite angles formed by intersecting lines).

The following are the important properties of angles:

- The sum of all the angles on one side of a straight line is always equal to 180 degrees,
- The sum of all the angles around the point is always equal to 360 degrees

Applications:

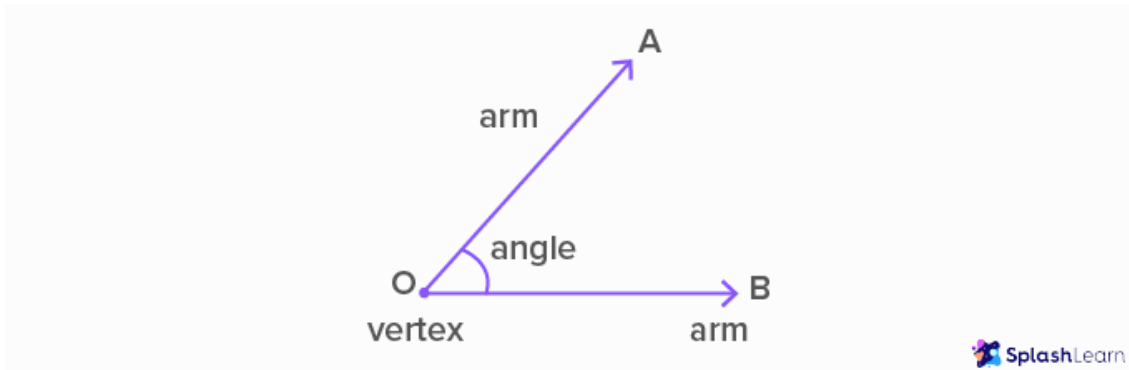
Angles are used extensively in various real-world applications. In architecture and engineering, angles are crucial for designing structures and determining the slopes of surfaces. In navigation, angles are used to calculate directions and distances. In physics, angles play a role in understanding forces, motion, and optics.

Understanding angles is essential not only for mathematical problem-solving but also for practical applications in everyday life and various professional fields.

Parts of Angles

- **Vertex:** A vertex is a corner of an angle, a point where two lines/sides meet. O is the vertex in the given figure.
- **Arms:** The two sides of the angle, joined at a common endpoint. OA and OB are arms of an angle.
- **Initial Side:** Also known as the reference line, a straight line from where an angle is drawn. OB is the reference line.

- **Terminal Side:** The side up to which the angle measurement is done. In the given diagram below, OA is the terminal side.



IMPORTANCE OF ANGLES

Angles play a crucial role in mathematics due to their fundamental properties and applications across various mathematical concepts. Here's why angles are important in mathematics:

Geometric Relationships: Angles define the relationships between lines, rays, and line segments. They help in understanding the shape and structure of geometric figures, such as polygons, circles, and solids. Angles are central to geometry, where they are used to define and analyze shapes, angles of rotation, symmetry, and congruence.

Trigonometry: Angles are fundamental to trigonometry, a branch of mathematics that deals with the relationships between angles and sides in triangles. Trigonometric functions such as sine, cosine, and tangent are based on angle measurements and are used extensively in calculus, physics, engineering, and many other fields.

Measurement and Units: Angles are used as a unit of measurement in geometry, trigonometry, and other mathematical disciplines. They are measured in degrees, radians, or gradians, depending on the context. The ability to measure and work with angles is essential for accurate calculations and problem-solving.

Geometric Transformations: Angles are critical in understanding geometric transformations such as rotations, reflections, translations, and dilations. These transformations play a significant role in geometry, coordinate geometry, and transformations of functions in algebra.

Applications in Real-World Problems: Angles have practical applications in various real-world problems, such as surveying, navigation, architecture, engineering design, physics calculations (e.g., projectile motion), and computer graphics.

In summary, angles are foundational elements in mathematics that underpin geometric concepts, trigonometric functions, measurement systems, geometric transformations, and real-world applications. A strong understanding of angles is essential for mastering geometry, trigonometry, calculus, and other advanced mathematical topics.

THE SKILL OF IDENTIFYING ANGLES

The skill of identifying angles involves recognizing and understanding the properties of angles in geometric shapes or situations. This skill is fundamental in mathematics and has practical applications in fields such as engineering,

architecture, physics, and navigation. Here are some key aspects of the skill of identifying angles:

Angle Recognition: This involves identifying different types of angles such as acute, right, obtuse, straight, and reflex angles based on their measurements and geometric properties.

Angle Measurement: The skill includes using a protractor or other measuring tools to determine the measure of an angle in degrees accurately.

Angle Relationships: Understanding angle relationships, such as complementary angles (angles that add up to 90 degrees), supplementary angles (angles that add up to 180 degrees), adjacent angles (angles that share a common side and vertex), and vertical angles (opposite angles formed by intersecting lines).

Applications: The ability to identify angles is crucial in various real-world scenarios. For example, in architecture, angles are used to design structures and determine the slope of surfaces. In navigation, angles help calculate directions and distances. In physics, angles play a role in understanding forces, motion, and optics.

Developing the skill of identifying angles involves practice, visualization, and understanding geometric principles. It is an essential component of geometric reasoning and problem-solving in mathematics and other disciplines.

2. NEED AND SIGNIFICANCE OF THE STUDY

The study focusing on enhancing the skill of identifying angles in the immediate environment among sixth-grade students is of significant importance for several reasons. Firstly, angles are fundamental geometric concepts that form the basis of numerous mathematical and scientific principles. A solid understanding of angles is crucial not only for academic success in mathematics but also for practical applications in fields such as engineering, architecture, physics, and technology. Secondly, targeting sixth-grade students specifically is strategic as this age marks a critical period in cognitive development, including spatial reasoning abilities. By enhancing angle identification skills at this stage, students can build a strong foundation for more advanced mathematical concepts in later grades. Furthermore, the study's emphasis on the immediate environment adds a practical dimension by connecting mathematical learning to real-world contexts. This approach promotes active learning and encourages students to apply their knowledge of angles in everyday situations, fostering a deeper understanding of geometry beyond abstract concepts. Overall, the study's focus on enhancing angle identification skills among sixth-grade students not only addresses a crucial aspect of mathematical education but also promotes the development of essential cognitive abilities and prepares students for future academic and professional endeavors that require strong mathematical and spatial reasoning skills.

3. EMERGING THE PROBLEM

The emergence of challenges in developing students' skills in identifying angles in their immediate environment among sixth-grade learners underscores the need for focused research and intervention. One primary issue is the abstract nature of geometric concepts like angles, which can be challenging for students to grasp without tangible connections to real-world scenarios. This disconnect often leads to difficulties in applying angle-related knowledge outside of textbook exercises, limiting the depth of understanding and practical relevance. Additionally, cognitive development during the sixth-grade years is characterized by significant variability among students, impacting their ability to conceptualize and manipulate geometric shapes and angles effectively. This variability can result in disparities in learning outcomes, with some students struggling to progress while others excel, highlighting the importance of targeted interventions to support diverse learning needs. Furthermore, the transition to more complex mathematical concepts in higher grades necessitates a strong foundational understanding of angles. Inadequate mastery of angle identification skills in sixth grade can lead to challenges in comprehending advanced geometry, trigonometry, and other mathematical disciplines, potentially hindering academic growth and achievement in STEM-related fields. Addressing these emerging problems requires research-based strategies and interventions that cater to the developmental stage and learning styles of sixth-grade students, fostering a deeper conceptual understanding of angles and their practical applications in the real world.

4. OBJECTIVES

1. To identify the understanding level of “measure the different angles” among six standard students.
2. To develop appropriate strategies by incorporating ICT.
3. To improve the application of measure the different angles in the immediate environment.
4. To assess the understanding level of “measure the different angles” among six standard students.

5. HYPOTHESES

Implementing targeted interventions and practical applications of angle identification concepts in the immediate environment will significantly improve sixth-grade students' proficiency in recognizing and understanding angles compared to traditional classroom instruction alone.

6. METHODOLOGY

The investigator has adopted Experiment method with Single group Design.

7. SAMPLE

The VI standard students from GHSS Therani in Perambalur district were selected as the sample of the present investigation through simple random sampling technique.

8. RESEARCH TOOL

Achievement test questionnaire with 20 objective type questions.

9. RESEARCH PROCESS

The following phases have been involved in the present action research

- ❖ Finding the problem and selection of school for action research study
- ❖ Identifying the sample
- ❖ Preparation of pre - test and post - test question paper
- ❖ Conducting pre test
- ❖ Implementation of activities
- ❖ Designing and adopting frequent practices
- ❖ Activities
- ❖ Conducting post test
- ❖ Comparing the performance of the students in pretest and post test
- ❖ Testing of hypotheses
- ❖ Findings results as net gains

10. ADMINISTRATION OF PRE-TEST

To gauge students' existing knowledge of angle identification, a pre-test was administered.

11. TREATMENT

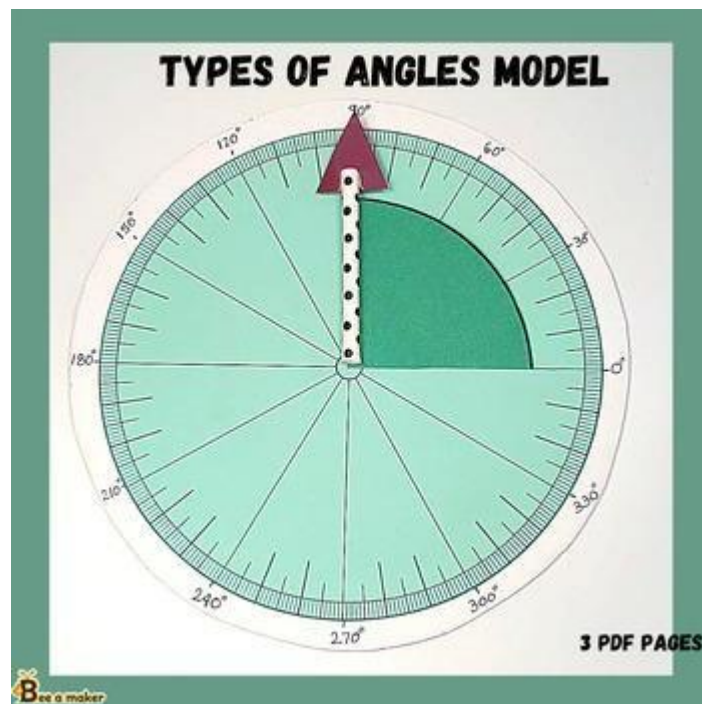
Incorporating Information and Communication Technology (ICT) can enhance the learning experience and engagement of sixth-grade students in developing angle identification skills.

Activity 1 The hands-on exploration activity

The investigator implemented the Angle Scavenger Hunt activity by first gathering the sixth standard students and introducing the concept of angles, showcasing examples of different angle types like right angles, acute angles, and obtuse angles using objects within the classroom. The investigator demonstrated how to identify these angles and explained the purpose of the scavenger hunt, emphasizing the importance of accurate observation and recording. Students were then provided with angle lists and encouraged to explore the classroom and school environment independently or in small groups, actively searching for examples of each angle type. The investigator monitored the activity, providing guidance and clarification as needed, and facilitated a group discussion afterward to review findings, discuss challenges, and reinforce angle concepts discovered during the hands-on exploration.

The hands-on exploration activity used in this study was an Angle Scavenger Hunt. Researchers designed this activity to immerse sixth standard students in a practical and interactive experience aimed at enhancing their ability to identify angles in real-life settings. The investigator set up a list of angle types, including right angles, acute angles, and obtuse angles, for students to find within

the classroom and school premises. This activity encouraged students to actively apply their knowledge of angle concepts in a meaningful context, such as identifying right angles in door frames, acute angles in classroom corners, and obtuse angles in various architectural features. By engaging in this scavenger hunt, students not only strengthened their angle identification skills but also developed a deeper understanding of how angles manifest in their immediate environment. This hands-on approach fostered active learning and helped students connect theoretical concepts with practical observations, contributing to a more comprehensive grasp of angle geometry.





Activity 2 Angle Investigation Game

The Angle Investigation Game was conducted in the classroom by the investigator as a dynamic and engaging activity to reinforce students' understanding of angle concepts. The investigator first divided the students into small groups and provided them with task cards containing angle-related challenges, such as finding complementary angles or identifying angles formed by intersecting lines. Each group competed to complete the challenges within a set time frame, encouraging teamwork, critical thinking, and quick application of angle concepts. The investigator facilitated the game by monitoring progress, providing hints or guidance as needed, and ensuring a lively and focused atmosphere. After the game, the investigator led a discussion where groups shared their strategies, discussed any challenges faced, and consolidated their learning by reviewing key angle properties and relationships uncovered during the activity.

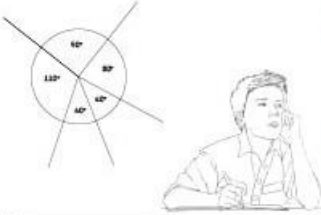
Angles Are Additive Game

Directions:

1. Use a compass to draw a circle on your paper.
2. With a partner, take turns drawing a game card. You will draw each angle inside your circle.
3. The first person to reach 360° wins!
4. If you go over 360°, you can't draw that angle. You turn to your partner.

Example:

At the end of the game, the winner's circle might look like this:
 $90^\circ + 90^\circ + 45^\circ + 45^\circ + 135^\circ = 360^\circ$



80°	15°	75°	80°	160°	165°
30°	35°	100°	110°	175°	10°
45°	50°	125°	130°		
60°	65°	145°	150°		

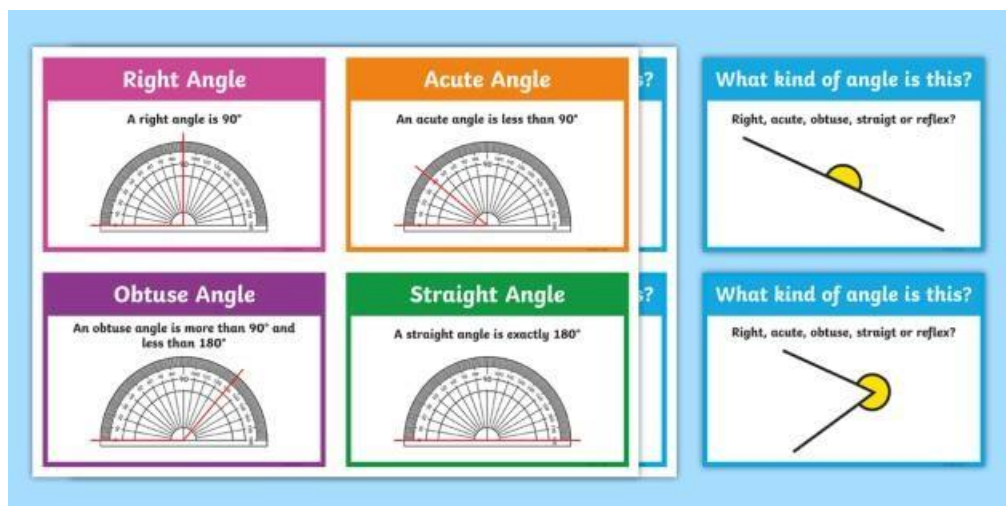
Activity 3 The Angle Art Project

The Angle Art Project was employed in this study by the investigator as a creative and hands-on activity to deepen students' understanding of angle concepts. The investigator tasked students with creating artwork that incorporated various types of angles, such as right angles, acute angles, and obtuse angles. Students were encouraged to design geometric collages using cut-out shapes with specific angle measurements or paint murals depicting scenes with angle formations. This artistic approach engaged students in applying their knowledge of angles in a visually appealing way, fostering creativity and critical thinking. The investigator provided guidance and support as students worked on their projects, ensuring that the art pieces effectively demonstrated their understanding of angle properties and relationships. After completing their artwork, students shared and discussed their creations, reflecting on how angles were utilized in their designs and reinforcing their learning of angle concepts in a meaningful and memorable manner.



Activity 4 ICT Related Activity

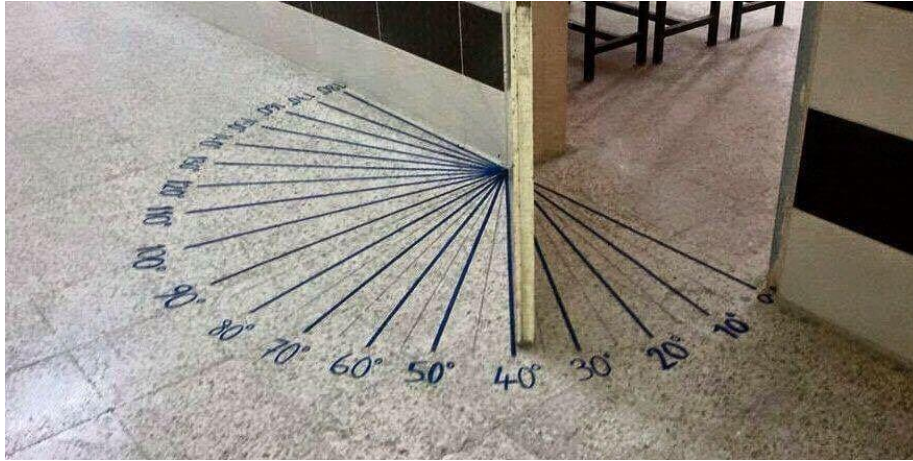
The investigator in this study incorporated an ICT-related activity to enhance students' understanding of angles. This activity involved using interactive software or apps that allowed students to explore angle concepts in a digital environment. Students engaged in virtual angle measurement tasks, angle identification challenges, and interactive angle visualization activities. The investigator facilitated the use of ICT tools, providing guidance on how to navigate the software or app effectively. This ICT-based approach not only made learning about angles more interactive and engaging but also allowed students to practice and apply angle concepts in a technologically immersive way. After completing the ICT activity, students discussed their experiences and findings, consolidating their learning of angle properties and relationships in a digital context.





Activity:5 Angle Measurement Stations

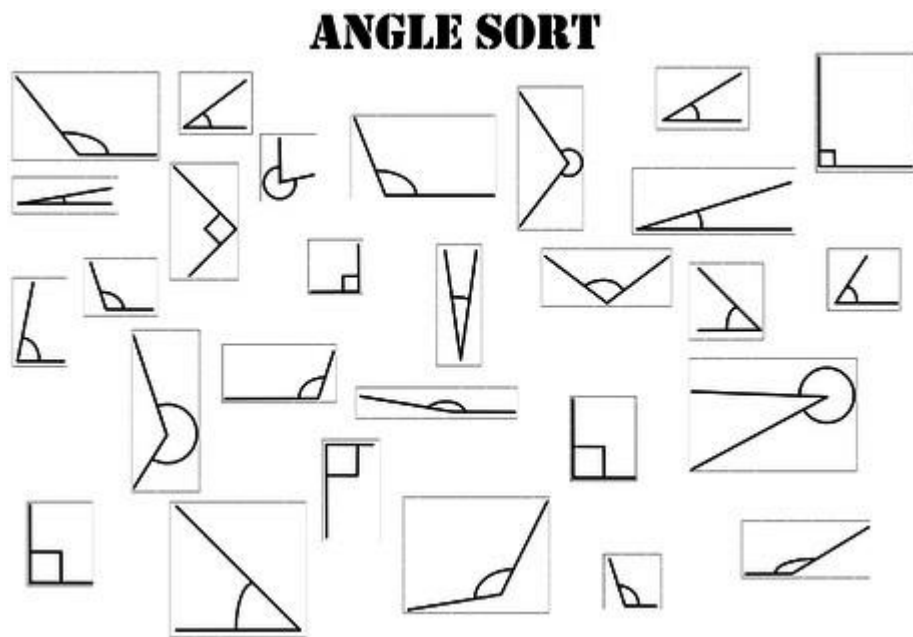
In this study, the investigator utilized Angle Measurement Stations as a hands-on activity to deepen students' understanding of angle measurement and identification. The investigator set up various stations around the classroom with different objects or shapes that required students to measure and identify angles using protractors. For example, students measured the angles of desk corners, bookshelf edges, or geometric shapes displayed at each station. The investigator provided guidance on how to use the protractors accurately and encouraged students to work collaboratively in small groups. This activity not only reinforced students' measurement skills but also allowed them to apply their knowledge of angle properties in real-world contexts. After completing the measurements at each station, students discussed their findings, compared results, and reinforced their understanding of angle concepts through hands-on practice.



Activity 6 Angle Sorting Game

In this study, the investigator incorporated two additional activities related to angles: the Angle Sorting Game and the Angle Construction Challenge. The Angle Sorting Game involved preparing a set of cards with different angle diagrams or descriptions, such as right angles, acute angles, obtuse angles, and straight angles. Students worked individually or in small groups to sort the cards into the correct angle categories, reinforcing their understanding of angle


classifications. The investigator facilitated the game by providing guidance, checking for accuracy, and leading a discussion to review the correct classifications and reinforce angle concepts.



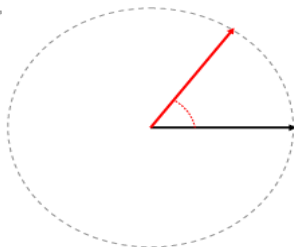
Activity7: The Angle Construction Challenge

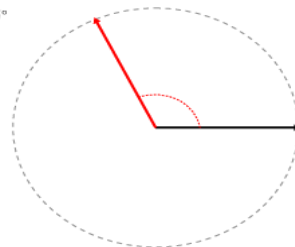
The Angle Construction Challenge tasked students with using a protractor and ruler to construct specific types of angles, such as a 45-degree angle, a 90-degree angle, or an angle bisector. The investigator provided guidelines, templates, and materials like paper, pencils, protractors, and rulers for angle construction. Students worked diligently to accurately construct the angles according to the given specifications, honing their measurement and construction skills while applying angle concepts practically. The investigator supported the challenge by offering assistance, checking constructions for accuracy, and facilitating discussions where students shared their construction methods and

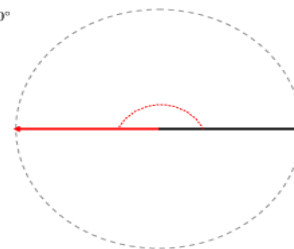
reasoning, further solidifying their understanding of angle properties and relationships.

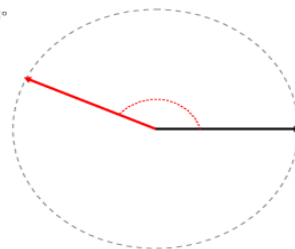
 **Creating Angles** Name: **Answer Key**

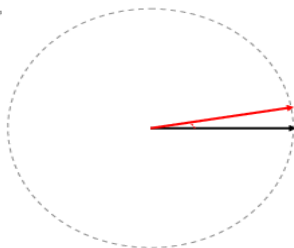
Use a protractor to complete the angle shown.

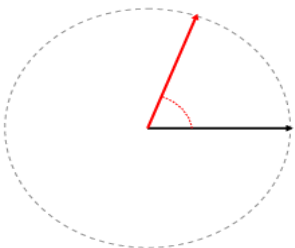
1) 55° 

2) 115° 

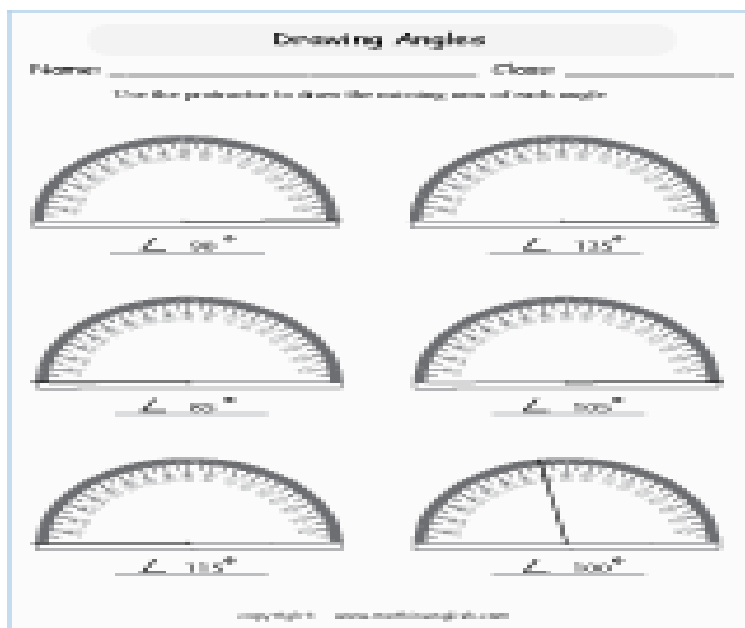
3) 180° 

4) 155° 

5) 10° 

6) 70° 

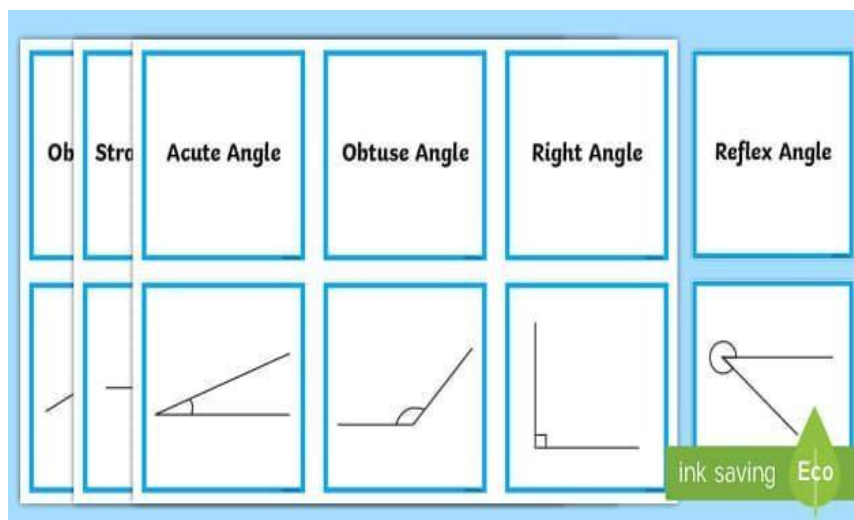
Math www.CommonCoreSheets.com 1 1-6 83 67 50 33 17 0



Activity 8 Angle Matching Game






In this study, the investigator utilized the Angle Matching Game as an interactive activity to reinforce students' ability to identify and classify angles accurately. The investigator prepared a set of cards with angle diagrams or descriptions on one set and angle types (e.g., right angle, acute angle) on another set. Students worked collaboratively in pairs or small groups, engaging in critical thinking and discussion to match each angle diagram or description with the corresponding angle type card. The game challenged students to apply their knowledge of angle properties and relationships, as they needed to analyze each angle's characteristics to make accurate matches. To add complexity, the investigator included multiple angle diagrams representing the same angle type but in different orientations or configurations, requiring students to consider variations in angle appearances.

Throughout the activity, the investigator provided guidance and encouragement, fostering a supportive learning environment where students could share their reasoning behind their matches and clarify any misconceptions. This hands-on approach not only reinforced students' understanding of angle concepts but also promoted collaboration, problem-solving skills, and active engagement with geometry principles.



Name _____

Angles

	Zero Angle
	Acute Angle
	Right Angle
	Obtuse Angle
	Straight Angle

Matching Angles

Use a protractor of your own to measure the angles below.



•

• Right Angle



•

• Acute Angle



•

• Full Rotation



•

• Straight Angle



•

• Obtuse Angle



•

• Reflex Angle

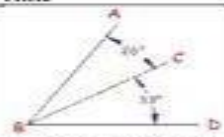

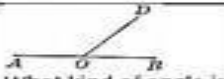
Activity 9 Angle Identification Scavenger Hunt

In this study, the investigator implemented the Angle Identification Scavenger Hunt as a dynamic activity to enhance students' ability to identify different types of angles. The investigator strategically placed various objects or drawings around the classroom that represented different angle types, such as right angles, acute angles, obtuse angles, and straight angles. Each student or group was provided with a checklist or worksheet containing descriptions or images of the angle types they needed to find during the scavenger hunt.

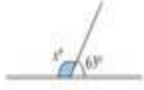







Students enthusiastically searched the classroom, actively looking for the hidden objects or drawings that matched the angle types on their checklist. As they identified and marked off each angle type they found, students engaged in practical application of angle identification skills in a real-world context. After completing the scavenger hunt, students gathered to discuss their findings as a group, sharing where they found each angle type and confirming their understanding of angle identification through hands-on exploration.

The Angle Identification Scavenger Hunt not only reinforced students' knowledge of angle properties but also promoted collaboration, observation skills, and critical thinking as they applied their learning to locate and classify angles in their immediate environment. The investigator facilitated the activity by providing guidance, encouraging discussion, and fostering a positive learning experience centered on geometry concepts.

Scavenger Hunt

Hint	Answer	Location
 <p>What is the name of the angle that is 33°?</p>		
 <p>Which angle is a Right Angle?</p>		
 <p>What kind of angle is Angle DOB?</p>		

LOOP CARDS **ANGLE FACTS 1**

<p>137°</p> <p>A</p> <p>Find the value of x</p>  <p>FIND ANSWER</p>	<p>183°</p> <p>B</p> <p>Find the value of x</p>  <p>FIND ANSWER</p>	<p>76°</p> <p>C</p> <p>Find the value of x</p>  <p>FIND ANSWER</p>	<p>146°</p> <p>D</p> <p>Find the value of x</p>  <p>FIND ANSWER</p>
<p>35°</p> <p>E</p> <p>Find the value of x</p>  <p>FIND ANSWER</p>	<p>143°</p> <p>F</p> <p>Find the value of x</p>  <p>FIND ANSWER</p>	<p>39°</p> <p>G</p> <p>Find the value of x</p>  <p>FIND ANSWER</p>	<p>108°</p> <p>H</p> <p>Find the value of x</p>  <p>FIND ANSWER</p>

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12. ADMINISTRATION OF POST TEST

Following the introduction of angle-related activities, the investigator conducted a post-test enhancing angle identification skills among sixth-grade students.

13. DATA COLLECTION

Data were collected with the help of questionnaire and they were analyzed and tabulated by the application of percentage, mean, SD and 't' value for which pre test and post test scores could be compared.

14. STATISTICAL TECHNIQUES

❖ Mean and S.D

❖ 't' test

15. DATA ANALYSIS

Table 1

Pre test and Post test Score

S.No	Pre test	Post Test
1	10	20
2	10	18
3	08	16
4	12	16
5	14	20
6	12	22
7	14	20
8	10	18
9	12	22
10	14	20
11	10	17
12	14	18
13	12	20
14	10	22
15	13	22
16	10	20
17	15	21
18	10	20
19	15	22
20	15	22

Table 2

The level of Pre test and Post test

	%
Pre test	37.73%
Post test	62.26%

The table shows that the level of achievement based on pre-test and post-test scores, expressed as percentages. The pre-test level is at 37.73%, suggesting an initial performance level before any intervention or assessment. In contrast, the post-test level shows a significant increase to 62.26%, indicating an improvement in performance following the intervention.

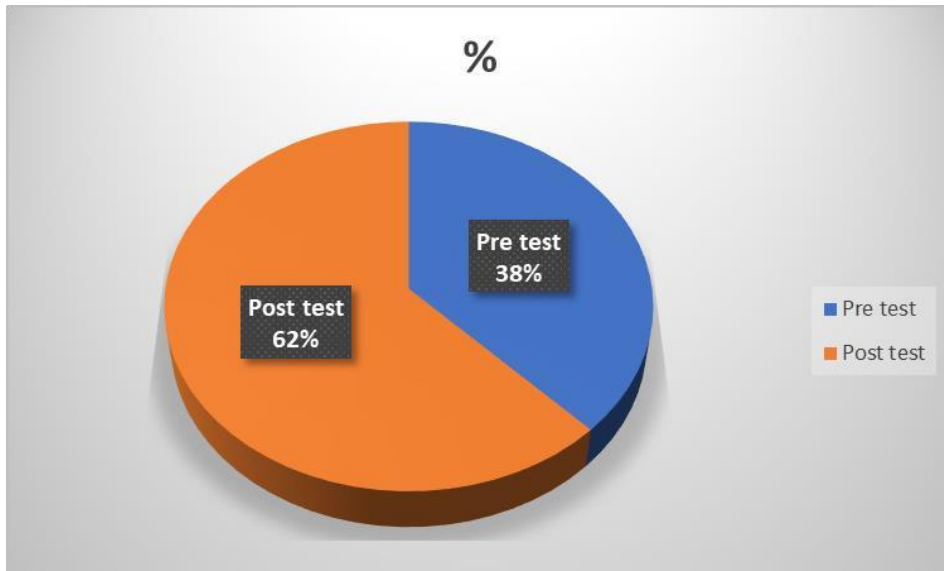


Table 3

Mean, Sd and t test scores of Pre and post tests

	Mean	SD	't' value	Level of Significance
Pre test	12.00	2.09	12.13	S
Post test	19.8	1.96		

Significant at 0.05 level (2.02)

The above table shows that the mean score of the post-test, 19.8, is higher than the mean score of the pre-test, 12.00. The calculated 't' value of 12.13 is greater than the table value of 2.02, which is significant at the 0.05 level. It is concluded that there is no significant difference between the pre and post-test scores in the skill of identifying angles in the immediate environment among sixth standard.

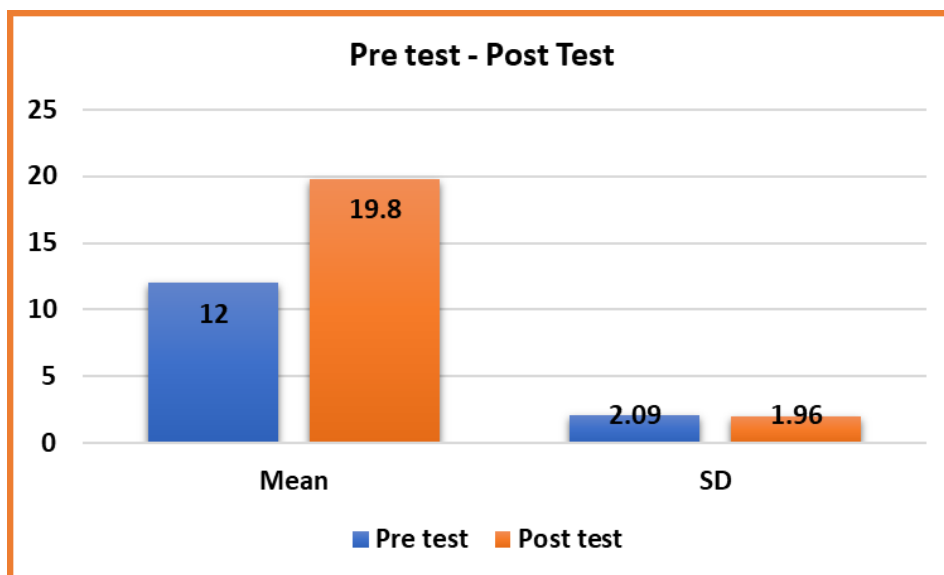


Table 4

Mean, Sd and t test scores of male and female students of Pre test

Pre test	Mean	SD	't' value	Level of Significance
Male	11.6	1.95	0.86	NS
Female	12.4	2.15		

Significant at 0.05 level 2.10

The above table shows that the mean scores of the pre-test for female students, 12.4, are greater than the mean scores of male students, 11.60. The calculated 't' value is 0.86 less than the table value of 2.10, which is significant at the 0.05 level. It is concluded that there is no significant difference between male and female students in the pre-test.

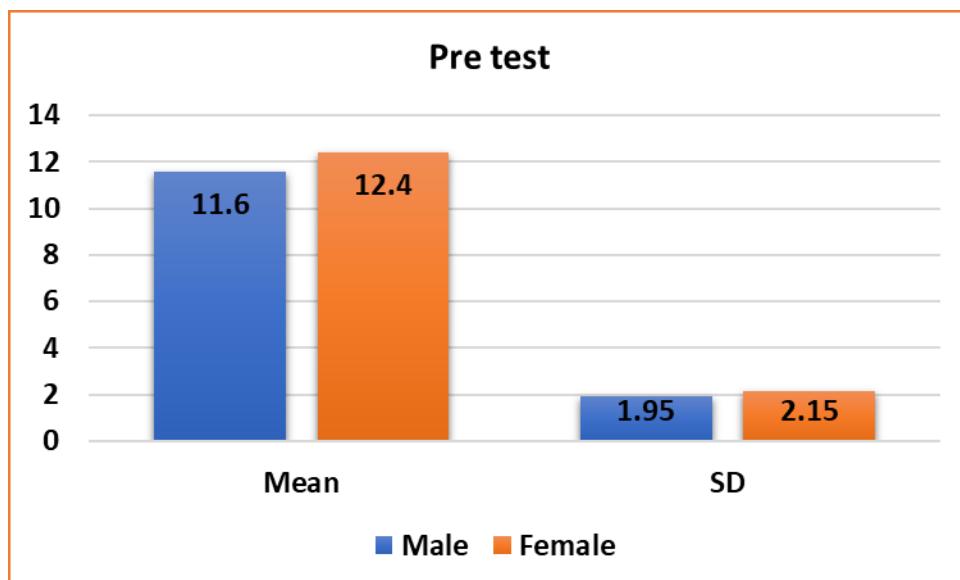


Table 5

Mean, Sd and t test scores of male and female students of Post test

Post test	Mean	SD	't' value	Level of Significance
Male	19.20	2.03	1.43	NS
Female	20.40	1.68		

Significant at 0.05 level 2.10

The above table shows that the mean scores of the post-test for female students, 20.40, are greater than the mean scores of male students, 19.20. The calculated 't' value is 1.43 less than the table value of 2.10, which is significant at the 0.05 level. It is concluded that there is no significant difference between male and female students in the post-test.

16. FINDINGS

1. The level of achievement based on pre-test 37.73% and post-test scores 62.26%
2. The mean score of the post-test, 19.8, is higher than the mean score of the pre-test, 12.00. The calculated 't' value of 12.13 is greater than the table value of 2.02, which is significant at the 0.05 level. It is concluded that there is no significant difference between the pre and post-test scores in the skill of identifying angles in the immediate environment among sixth standard.

3. The mean scores of the pre-test for female students, 12.4, are greater than the mean scores of male students, 11.60. The calculated 't' value is 0.86 less than the table value of 2.10, which is significant at the 0.05 level. It is concluded that there is no significant difference between male and female students in the pre-test.
4. The mean scores of the post-test for female students, 20.40, are greater than the mean scores of male students, 19.20. The calculated 't' value is 1.43 less than the table value of 2.10, which is significant at the 0.05 level. It is concluded that there is no significant difference between male and female students in the post-test.

17. NET GAINS

1. Students showed a substantial improvement in accurately identifying and measuring angles in real-world scenarios, showcasing a heightened proficiency in geometry.
2. The intervention resulted in a noticeable increase in students' ability to apply angle concepts to practical situations, leading to a more comprehensive understanding of geometric principles.
3. The students demonstrated enhanced spatial reasoning skills, enabling them to identify angles more efficiently and accurately in various environmental contexts.

4. There was a clear enhancement in the students' angle recognition capabilities, leading to a more robust foundation in geometry and spatial awareness.

19. EDUCATION IMPLICATIONS

The study on enhancing sixth standard students' ability to identify angles in their immediate environment showcased significant progress from pre-test to post-test scores, indicating the effectiveness of the intervention. Gender-based analysis revealed no significant differences in performance between male and female students, underscoring the importance of tailored educational approaches that address spatial reasoning skills without regard to gender differences. These findings offer valuable insights for educators seeking to design inclusive and impactful strategies for skill development in geometry and spatial awareness among students.

The research findings hold several implications for educational practice and future research. Firstly, they highlight the effectiveness of targeted interventions in improving specific skills, such as identifying angles, among sixth standard students. Educators can use these insights to design and implement similar interventions that focus on enhancing spatial reasoning abilities in mathematics and related subjects. Additionally, the study's gender analysis underscores the need for inclusive teaching strategies that address individual differences while ensuring equal opportunities for skill development across all student groups. Future research could explore additional factors that may

influence students' performance in spatial tasks, such as environmental factors or instructional methods, to further enhance educational outcomes in this area.

20. CONCLUSION

The interventions implemented, including interactive simulations, angle recognition games, using ICT tools, proved highly effective in improving students' angle identification proficiency. These activities not only engaged students but also deepened their understanding of angle concepts through hands-on experiences and real-world applications. The study highlights the practical relevance of angle identification skills by connecting geometric concepts to the students' immediate environment. Through activities like virtual angle hunts and angle measurement apps, students were able to apply their knowledge in practical scenarios, enhancing their ability to recognize angles in everyday situations.

Furthermore, the study underscores the role of ICT in facilitating meaningful learning experiences and supporting cognitive development. The use of digital tools and virtual reality simulations provided students with interactive and immersive opportunities to explore angles, fostering spatial awareness and critical thinking skills. Overall, the study's outcomes emphasize the importance of integrating innovative teaching strategies, ICT resources, and real-world applications to enhance students' angle identification skills effectively. These findings have implications for curriculum development, pedagogical practices, and educational technology integration, aiming to promote a deeper understanding of geometry and mathematical concepts among sixth-grade learners.

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APPENDIX

QUESTIONNIRE

Answer the following questions to the best of your ability.

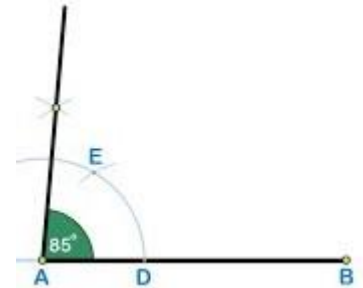
1. Identify the type of angle shown in the diagram below:

- A) Acute angle
- B) Obtuse angle
- C) Right angle
- D) Reflex angle



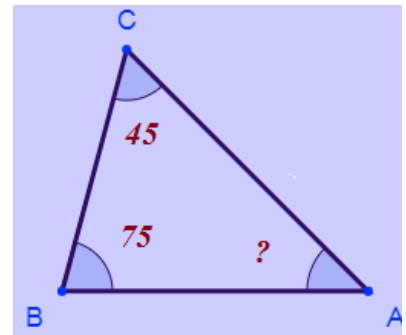
2. Classify the angle as acute, obtuse, or right:

- A) Acute
- B) Obtuse
- C) Right
- D) Reflex angle



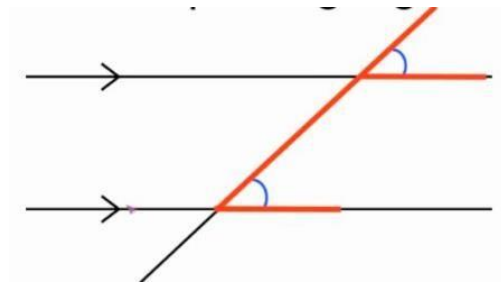
3. Calculate the missing angle in the triangle:

- A) 30 degrees
- B) 60 degrees
- C) 90 degrees
- D) 95 degrees



4. Identify the type of angle relationship shown in the diagram:

- A) Corresponding angles
- B) Alternate interior angles
- C) Vertical angles
- D) Supplementary angles

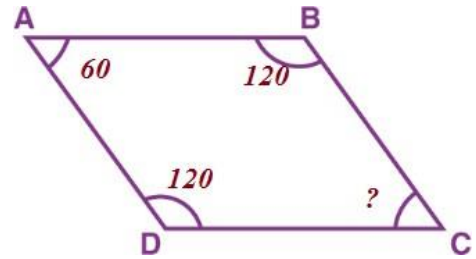


5. Determine the measure of the angle formed by the hands of a clock at 6 o'clock:

- A) 180 degrees
- B) 45 degrees
- C) 60 degrees
- D) 90 degrees

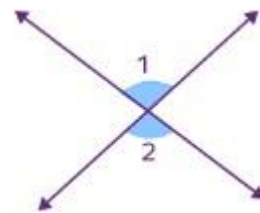
6. Calculate the measure of the missing angle in the parallelogram:

- A) 60 degrees
- B) 90 degrees
- C) 120 degrees
- D) 150 degrees



7. Identify the type of angle relationship shown in the diagram:

- A) Corresponding angles
- B) Vertical angles
- C) Alternate exterior angles
- D) Supplementary angles



8. Determine the measure of each interior angle of a regular pentagon:

- A) 90 degrees
- B) 108 degrees
- C) 120 degrees
- D) 144 degrees

9. Calculate the measure of the angle formed by the hands of a clock at 9:30:

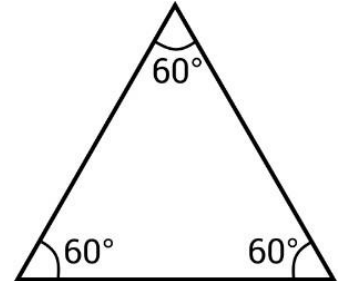
- A) 45 degrees
- B) 90 degrees



- C) 105 degrees
- D) 180 degrees

10. Identify the type of triangle based on its angles:

- A) Acute-angled triangle
- B) Obtuse-angled triangle
- C) Right-angled triangle
- D) Equilateral triangle



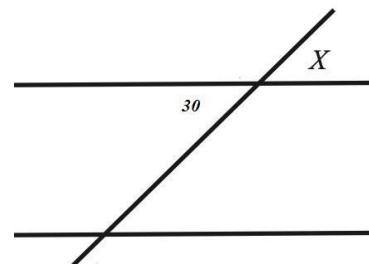
11. Determine the type of angle formed by the hands of a clock at 3 o'clock:

- A) Acute angle
- B) Obtuse angle
- C) Right angle
- D) Reflex angle



12. Calculate the measure of the angle marked as x in the diagram:

- A) 30 degrees
- B) 45 degrees
- C) 60 degrees
- D) 90 degrees



13. Identify the type of angle formed by two lines intersecting to form four equal angles:

- A) Acute angle

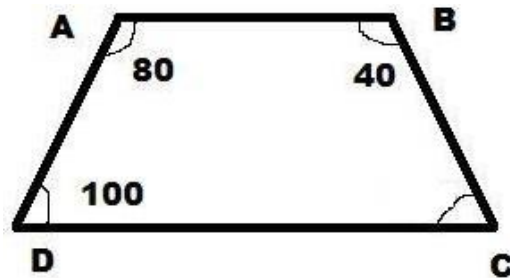
- B) Obtuse angle
- C) Right angle
- D) Reflex angle

14. Determine the measure of the interior angles of a regular hexagon:

- A) 60 degrees
- B) 90 degrees
- C) 120 degrees
- D) 180 degrees

15. Calculate the missing angle in the quadrilateral:

- A) 140 degrees
- B) 60 degrees
- C) 80 degrees
- D) 100 degrees

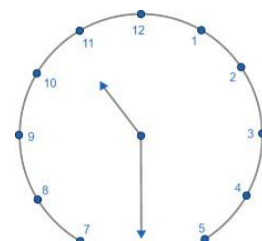


16. Identify the type of angle relationship shown in the diagram:

- A) Adjacent angles
- B) Vertical angles
- C) Supplementary angles
- D) Complementary angles



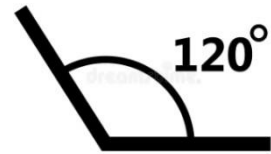
17. Determine the measure of the angle formed by the hands of a clock at 10:30:



- A) 45 degrees
- B) 90 degrees
- C) 135 degrees
- D) 180 degrees

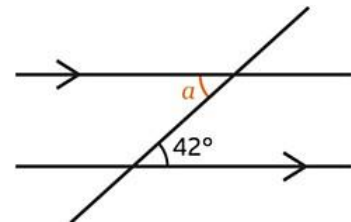
18. Classify the angle as acute, obtuse, or reflex:

- A) Acute
- B) Obtuse
- C) Reflex



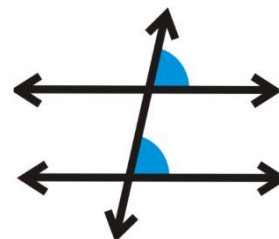
19. Calculate the measure of the angle marked as y in the diagram:

- A) 32 degrees
- B) 42 degrees
- C) 62 degrees
- D) 92 degrees



20. Identify the type of angle relationship shown in the diagram:

- A) Corresponding angles
- B) Alternate interior angles
- C) Supplementary angles
- D) Complementary angles



PHOTOS



ACTION RESEARCH REPORT

2024

**TITLE: “ELIMINATING THE DIFFICULTIES TO UNDER STAND ADVERBS IN
ENGLISH GRAMMAR AMONG VIII STANDARD STUDENTS IN PERAMBALUR
DISTRICT”**

**Submitted to
STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING
CHENNAI – 600006**

**By
R.RAJARATHINAM .,M.A.,M.ED
LECTURER**

**DISTRICT INSTITUTE OF EDUCATION AND TRAINING
PADALUR, PERAMBALUR DISTRICT
TAMILNADU – 621109**

CERTIFICATE

This is to certify that the Action Research entitled “Eliminating the Difficulties to Under Stand Adverbs in English Grammar among VIII standard Students in Perambalur District”, submitted to the State council of Educational Research and Training, Chennai, is a record of original research work done by **R.RAJARATHINAM, LECTURER, DISTRICT INSTITUTE OF EDUCATION AND TRAINING, PADALUR** in **PERAMBALUR DISTRICT, TAMILNADU** within the period of three months from January to March 2024 and the report has not done for the award of any Degree Diploma / Associate ship/ Fellowship of seminar title to any candidate of any university or institution. Also certified that this research Project Report represents independent work on the part of the candidate

PADALUR

Signature of the Principal

Date

ACKNOWLEDGEMENT

I record my sincere thanks to **Dr.N.Latha**, Director, State council of Educational Research and Training, Tamilnadu, for his inspiration to complete my Action Research

I would like to express my sincere and special gratitude to **Mr.Raja**, Principal, District Institute of Education and Training, Padalur for his active involvement and guidance to complete my action Research

It is a genuine pleasure to express my deep sense of thanks and gratitude to **Mr.P.Varatharaj**, Senior Lecturer, District Institute of Education and Training, Padalur ,who has generously given me invaluable assistance and guidance during the preparation for this research paper.

I also record my heartiest thanks to Headmaster and teachers of government higher secondary school Veppur, Veppur Taluk in Perambalur district for their kind co-operation to do the Action Research successfully in their school and implement the strategy on their school children.

I thank profusely all the Teaching and Non-Teaching faculty members of the District Institute of Education and Training, Padalur, Perambalur District for their kind co-operation to complete Action Research in time.

INVESTIGATOR

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1.0 INTRODUCTION

adverb is one of the parts of speech in English grammar ,It describes or modifies verb or adjectives, adverbs can be categorized and used into different types according to their functions when used in a sentence such as adverbs of manner (how something happens) adverbs of degree (to what extend) , adverbs of place (where) adverbs of time (when), or adverbs of frequency and adverbs sometimes ends with -ly but unlike other parts of speech, adverbs can be placed at any part of the sentences(beginning middle or end) and make complete sense without sounding absurd, another characteristic multiple adverbs can be used in a sentence

2.0 NEED OF THE STUDY:

When I visited the school I asked the students who were studying 8th standard in Government Higher Secondary School Veppur where some students not answered properly in the adverbs components, they did'nt get Adequate knowledge in English, So the students will be able to identify and use adverbs modifier to express time ,place, manner, degree and frequency , Adverbs are important because they are the parts of the sentences that adds more details and information to it . They give additional detail about how things happen and arguably and what makes a string of words unique and interesting in a sentence, Hence I decided to choose the topic , Eliminating the difficulties to understand adverbs in English among the students of VIII standard in Government Higher Secondary School , Veppur.

3.0 IDENTIFICATION OF THE PROBLEM:

When I visited the government Higher School Veppur I asked and interacted with students of VIII standard most of the students not responded pertaining to grammar. Especially one of the parts speech in grammar parts after that I enquired a few students to diagnosis components of grammar. More or less the Students lacking the skill of using basics grammar components of parts of speech. The investigator realized and recognized that the issues and he decided to find a solution to the problem, therefore, the key determines to help the students to know the adverbs use in English language. This topic has been chosen for the action research.

4.0 OBJECTIVES OF THE STUDY:

- To know about Adverbs
- To identify the adverbs in the basic language skills
- To use the adverbs in sentences
- To implement the Adverbs in the basic language skills .
- To develop the skill of using adverb in the English language.

5.0 ACTION PLAN:

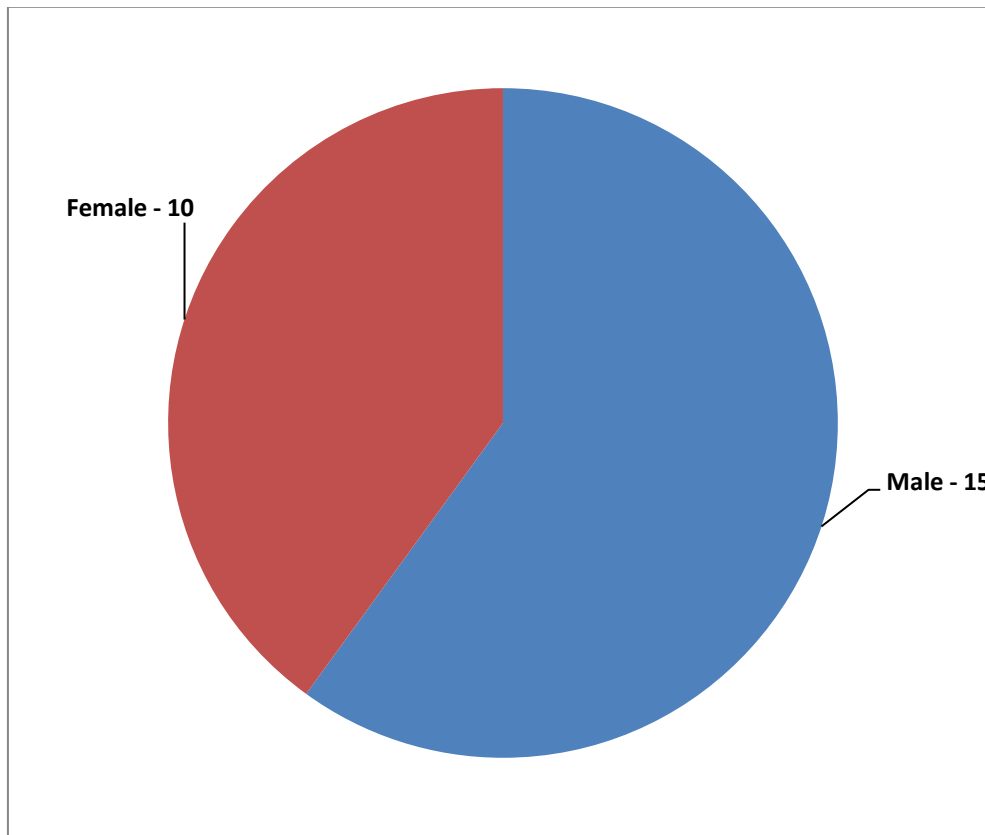
As the investigator proposed to evolve a viable solution, the Action plan was made, which consisted of different stages. They are as follows,

5.1. SELECTION OF SAMPLE:

Students who were studying standard VIII of Government higher secondary school Veppur, Veppur Taluk in Perambalur district were the sample of the study. There were 25 students present in the class. Out of 25 students 15 were boys and 10 were girls. All the students were selected as the sample of the study.

Figure 5.1

Sample of the study



5.2 TESTING OF HYPHOTHESES:

Taking into account the above mentioned objectives of the present study. The following hypothesis were formulated

1. There exists no significant difference between the pre-test and post-test mean score of the Experimental Group where reading skills speech is taught through the traditional skills and talk method.
2. There exists significant difference between the pre-test and post-test mean score of Experimental Group where reading skills is taught through Situational approach

5.3 MEASURING OF PREVIOUS KNOWLEDGE:

As the investigator observed that the students were not able to reading in English, the investigator decided to teach it with proper strategies and activities. To measure the previous knowledge of students, the investigator prepared a Pre-Test. This Pre-test was administered to the students. The tool consisted of 20 questions. The students were asked to read the questions properly and choose the correct answer from the given options.

6.0 IMPLEMENTATION OF STRATEGIES:

Adverbs using skill is one of toughest tasks a teacher faces. We all know that reading skills are essential to all human beings, and in nearly all other areas of life. Adverbs related activities encourage the child to speak, read and write the language in complete sentences. Learning proper adverbs using skills can seem like a tedious task to a child. But making the endeavor fun with games and activities can make the learning process fast and interesting for the children. The child knows that it gives room for creativity, choice and laughter. Hence the investigator gave some innovative activities for the students to learn the concepts easily.

ACTIVITIES:

Activity #1 – Act it out!

Learning “sticks” when we engage students’ brains AND bodies! So I often give my students opportunities to act out new concepts – like adverbs! Once my students know what an adverb is, I have them “act it out” and perform different actions in different ways like walking *quietly* or cutting *carefully*. To prepare for this activity, first make a list of 10-12 adverbs that students can act out, like this one from [With your students, carefully go over each adverb on the poster, one at a time. Have students brainstorm a verb to go with each adverb. \(i.e., “What’s an action that we can do QUICKLY?”\) Then, ask the students to physically act out the verb/adverb combination. Your students will likely have even more adverbs to add to the list! You can also turn the list into an anchor chart for future reference – students can refer to it as they write.](#)

Activity #2 – Partner Writing

The whole point of teaching grammar is so that your students can apply it to their writing...right?! So when you teach adverbs, make sure to give students opportunities to apply what they’re learning by adding adverbs to their writing. After a modeled writing mini-lesson, partner writing is a great activity to keep the learning going! For this activity, have students choose an adverb from a list (or brainstorm their own). Then, have students share their adverb with a partner. Next, tell students to choose a verb to go with their adverb, and share that verb with their partner. Once students have shared their adverb/verb pair, have each student write a sentence using their words (example: *The kids walked quietly during the fire drill*). Students can write their sentences on a white board, scrap paper, or in a notebook.

Activity #3 – Team Adjective or Team Adverb Game

Playing games is my favorite way to practice a skill! This game, from helps students compare and contrast adverbs and adjectives. First, prepare word cards ahead of time. Make 9 cards for each part of speech: noun, verb, adjective, and adverb (36 cards total).

To play the game, divide your class into two teams (Team Adjective and Team Adverb). Each team will need a team leader, and the team leader stands in front of their team. Give the Team Adjective leader the set of adjective cards and the Team Adverb leader the set of adverb cards. Keep the noun and verb cards for yourself. Tell the students, “I’m going to hold up a noun or verb card. The Team Adjective leader is going to hold up an adjective card and the Team Adverb leader is going to hold up an adverb card. We’ll see which one describes the word I hold up. The team whose word fits will get a point.” Hold up your first card (“bag,” for example) and have each team leader hold up their team’s card. Have students help you read aloud both words (for example, Team Adjective might hold up the word “brown” and team Adverb might hold up the word “slowly”). Ask the students, “Whose word can describe ‘bag’?” Students should identify the adjective. Then say, “Right! *Bag* is a noun so we can describe it with an adjective. Team Adjective gets a point!” Continue playing until you have a winner.

Activity #4 – Adjective/Adverb Scavenger Hunt

One way to make grammar instruction more useful to students is to have them connect grammar concepts with real texts. Having them search for adjectives and adverbs “in the wild” is the perfect way to make this connection! Students can make their own sorting chart on a piece of paper to record the words they find, or you can use a pre-made chart like this one from Students could also write their words on sticky notes or address labels and contribute to a class sort on a large piece of chart paper.

Activity #5 – Sentence Grab Bag

For this activity, prepare small word cards with a variety of nouns, verbs and adverbs. Put the cards in three separate bags labeled, “Nouns,” “Verbs,” and “Adverbs.” You might also want to print the cards on different colored paper, as shown here: Tell your students, “Today we are going to play Sentence Grab Bag. Let me show you how to do it. First, you need to pick a noun, a verb, and an adverb.” Pull out one word from each bag and read them to your students. “Now I need to make a sentence with these words. Do you have any ideas?” Have your students share some of their own ideas. Then, model writing a sentence that uses all 3 of the words (example: Dad quickly washed the stack of dishes.) Point out how you had to add some additional words to make an interesting sentence! Have the students identify the noun, the verb, and the adverb in the sentence. Then, give them the opportunity to play the game by having each child pull a noun, verb, and adverb card. “Read your words to your partner and work with your partner to plan a sentence. Your sentence can be silly – that’s okay. Just remember that you need to use all 3 words.” Have students turn and talk with their partner, then write their sentences down on a half-sheet of paper

Activity #6 – Adverbs of manner miming games

Adverbs of manner is obviously a great topic to bring some movement into the classroom, as it’s all about how actions are done. Students can:

- compete to do the best mime for a verb + adverb combination (“think deeply”, etc)
- brainstorm different actions that they can combine with a single adverb (saying and miming “move carefully”, “open carefully”, etc)
- brainstorm different ways that they can do a single action (“eat noisily”, “eat greedily”, etc)
- guess which adverb and verb combination is being mimed

Activity #7– Adverbs of manner guessing games

Students can either guess what is being talked about from clues that have adverbs of manner in them (“It carefully picks bugs from its friends and family” “Is it a monkey?”) or guess the adverb of manner for an action (“How do I drink my tea?” “You drink your tea very slowly” “No, that’s not right. Try again”).

Variations on the former include students describing and trying to guess:

- animals (“It roars loudly”, “It runs quickly”, “It eats greedily”, etc)
- people they know (“He laughs annoyingly”, “He punches me softly”, etc)
- places (“People speak quietly in that place”, “People study hard in that place”, etc)

Activity #8– Adverbs of manner make me say yes

Students try to get positive answers to questions like “Do you put your cup down heavily?” and “Do you take part in meetings enthusiastically?”, maybe using adverbs and/or verbs that they have been given, or using different words each time.

Activity #9– Adverbs of manner storytelling activities

Adverbs of manner storytelling card games

Students try to use as many of the adverbs that they are given as they can as they tell a story, putting them in order across the table as they do so. They could then tell the same story to someone else, who can then use the same cards to try to tell the story back and/or to someone else. To save cutting up, the same can also be done by numbering adverbs on a worksheet as they add them to the story.

For more fun and challenge, you could ask them to choose the adverb which their partner should use in the next line of the story each time.

Activity #10– Adverbs of manner chain stories

Each student starts writing a story on a different piece of paper, ending with a verb in the middle of their second sentence. They then fold the paper so that only the last line can be seen, pass it to the next person and receive one from someone else. The next person continues that sentence with an adverb of manner, finishes that sentence and starts one more that stops at the verb, folds the paper again and passes it on. Continue for around six to ten times, then ask them to unfold the paper that they receive and say how much or how little sense each story makes.

Activity #11– Adverbs of manner video activities

While watching a short video or extract of a video, students ask for the video to be paused whenever they think that they can describe what is happening on screen with a different adverb of manner and verb combination (from a worksheet and/ or with their own ideas).

If it's a short video, instead of or after this you could also get them to test each other on their memories of how things were done in the video with questions like “How did Mr Bean open his card?” “He opened his card happily”.

Activity #12– Adverbs of manner advice activities

Adverbs of manner can be used to ask for advice (“I can't speak English fluently”) and to give advice (“You should organise the new vocabulary systematically”), perhaps using a list of suggested verbs and/ or adverbs. As with these examples, this can be a good excuse for learner training with discussion of good self-study techniques, etc.

Activity #13– Adverbs of manner random pelmanism

This is based on the memory game “pairs”. Students take two cards from the table and say how they are the same in some way in order to be able to keep them. That match could be:

- an adverb that goes with the verbs on the two cards (“A monkey swings skilfully and a dolphin jumps through hoops skilfully” for “swing” and “jump”)
- a verb that goes with the adverbs on the two cards (“Some people sleep deeply and some people sleep noisily” for “deeply” and “noisily”)
- an adverb that goes with both things on the cards (“A surgeon cuts a body accurately and a footballer shoots a ball accurately” for “surgeon” and “footballer”)

Activity #14– Adverbs of manner things in common

Students get a point for each verb + adverb combination that is true for both/ all the people in their group (“We push into rush-hour trains aggressively”), or just half a point if they can use the same adverb but with different verbs for each person (“She cycles rapidly and I prepare breakfast rapidly”).

Activity #15– Adverbs of manner strangers on a train

Students are given different adverbs like “sadly” and “clumsily” and try to use them naturally in conversation as they roleplay meeting someone for the first time in a train, at a trade fair, etc. They then get points if they spotted which adverb their partner had to use and if other people didn’t spot which adverb they snuck into the conversation. If you do it more than once with different adverbs, students should hopefully work out that the best way to win the game is to also use lots of other adverbs of their own choice during the conversation (which luckily also makes for more intensive freer practice of the target language).

7.0 ADMINISTRATION OF POST-TEST:

Students did all the activities eagerly. After the treatment a post test was conducted to measure the performance of the pupils and the effect of the remedial interventions used.

8.0 ANALYSIS OF THE DATA:

The collected data were analysed by applying Mean and Average. The results are present in the following table. Marks scored in the Pre test and Post test sample are given in Table 8.1

TABLE 8.1

SOURCES OF THE PRE-TEST AND POST-TEST OF THE STUDENTS

S.NO	NAME OF THE STUDENTS	PRE-TEST	POST-TEST
BOYS			
1	Ajith kumar P	20	68
2	Bala Saravanan P	32	71
3	Barani V	15	40
4	Dhanush	9	40
5	Jothi Prakash J	45	80
6	Kiran.R	23	70
7	Madhan Raj S	41	76
8	Pachaiyappan S	40	86
9	Parthiban S	16	45
10	Sakthi Ganapathy P	25	53
11	Satheesh K	33	78

12	Surendar T	24	68
13	Vasanth V	15	46
14	Vignesh J	38	79
15	Yuva Ganesh K	49	84
GIRLS			
16	Akalya S	65	91
17	Harini R	54	88
18	Jayalakshmi L	13	55
19	Naseema B	24	79
20	Nishanthi S	34	80
21	Sandhiya B	41	78
22	Sandhiya D	69	75
23	Sangeetha Priya S	14	54
24	Swathi M	19	56
25	Vijayalakshmi S	39	74
	MEAN	31.88	68.52

From the table 8.1, it is understood that the mean value of the Pre-test is 31.88 but in the post test the mean value is 68.52. In the Pre-test five students scored below 20. But in Post-test they all scored above 40. It shows an effective learning of the students

TABLE 8.2

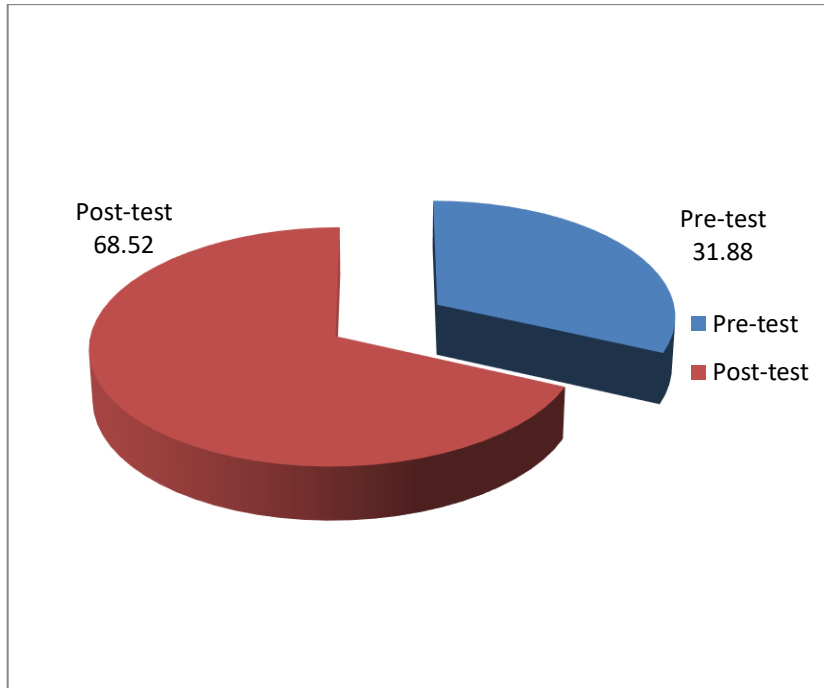
THE MEAN DIFFERENCE OF PRE-TEST AND POST-TEST

S.no	Category	Mean
1	Pre-test	31.88
2	Post-test	68.52

The table shows that the mean difference of the pre-test is 31.88 and post-test is 68.52. It shows the highest difference between the pre-test and post-test scores among the students. It infers the greatest difference may be due to the techniques used by the investigator.

FIGURE 8.1

MEAN SCORE DIFFERENCE OF PRE-TEST AND POST-TEST



**FIGURE 8. 2 - PRE-TEST AND POST-TEST
COMPARISION BOYS**

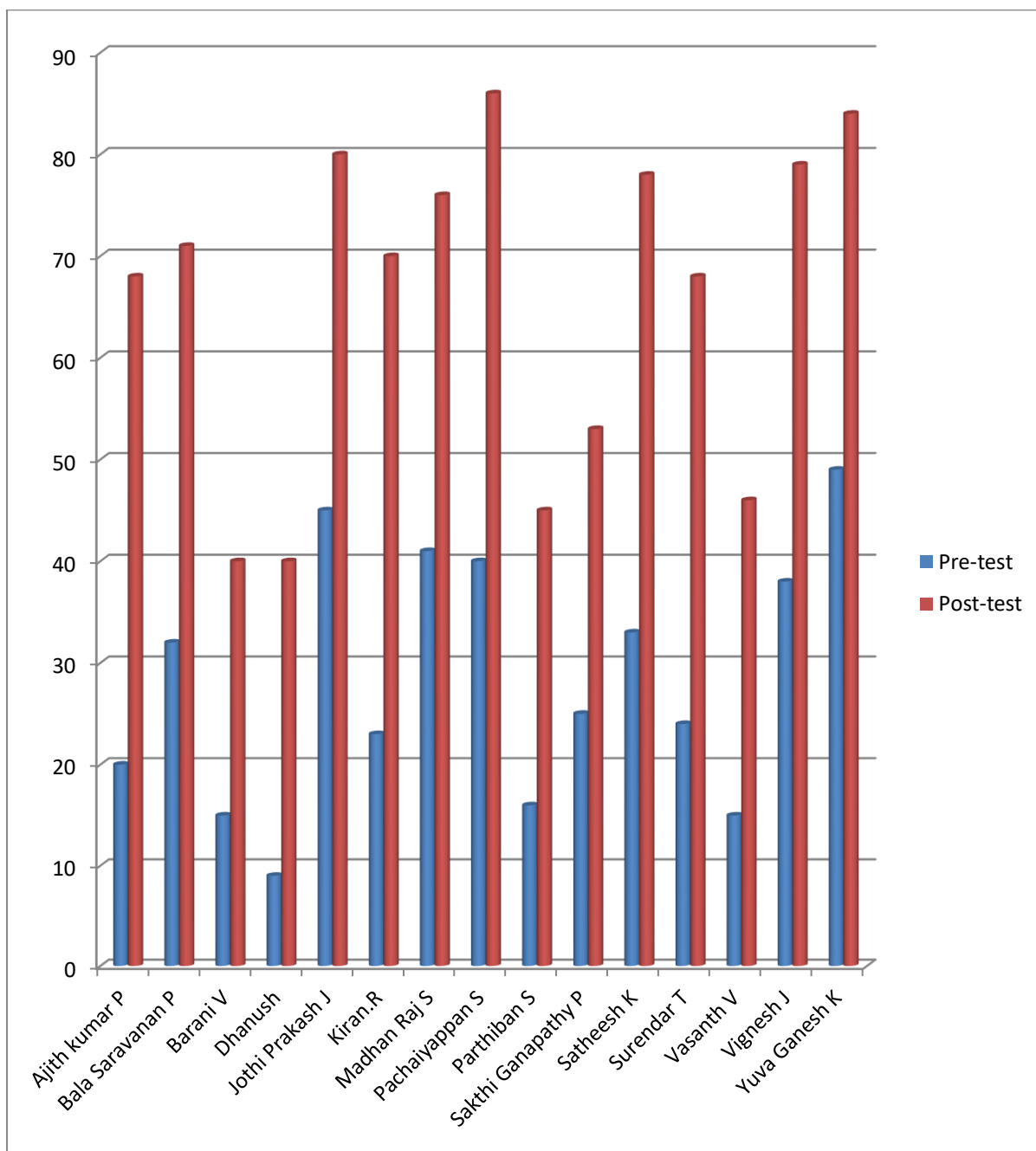
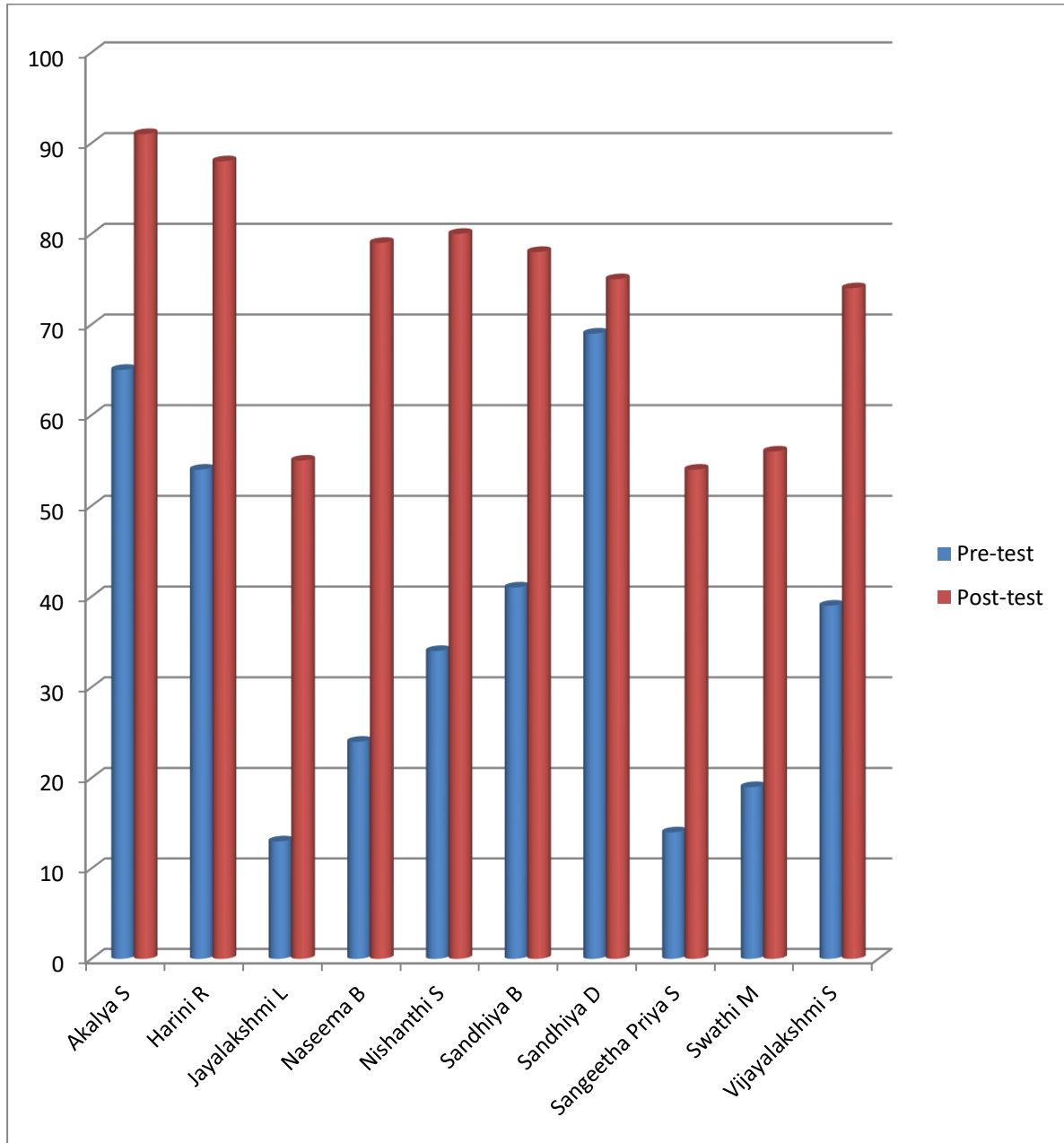


FIGURE 8.3 - PRE-TEST AND POST-TEST COMPARISON

GIRLS



9.0 FINDINGS OF THE STUDY:

The salient features of the study are enumerated below.

1. In the pre-test 88% of the sample got below 50.
2. In the pre-test the Mean value was 31.88 and in the post-test the value was 61.52
3. The greater mean difference was found between pre-test and post-test scores.

10. DISCUSSION:

It is understood that the usage of appropriate methods and techniques will help the students to enhance the comprehension of adverbs using skills. The classroom atmosphere given by the investigator made the students to learn the adverbs using skills easily and the different activities encouraged the students and they participated eagerly

11.0 EDUCATIONAL IMPLICATIONS:

1. Activity based Teaching learning materials are very useful to know the adverbs using skills easily.
2. The joyful learning strategy is more effective than the traditional (Chalk and talk) method.
3. This strategy can motivate the children to learn the concepts with pleasure.
4. This strategy can reduce wastage and stagnation in classroom teaching of English adverbs using skills.
5. This strategy not only motivates the children but also motivates the upper primary school teachers.

6. This strategy helps the pupils and the school teachers to enhance the achievement level in the class, school and as a whole.
7. This strategy makes children fearless and joyful.
8. As this method is very simple and easy to grasp the upper primary teachers can handle this self learning materials with less effort.

12.0 CONCLUSION:

The researcher implemented various strategies to develop the adverbs using skill among VIII standard students. The class teacher observed the investigators classroom activities and students involvement in adverbs using process. The investigator asked the teacher to follow all the methodologies and activities done by him to the students. The teacher was informed as if the adverbs using skills activities are all most fruitful to the students hence the teacher was asked to follow the strategies as much as possible to impart adverbs using skills to the students during the period of the research the students and teachers gave good support and cooperation. After the post test analysis the investigator observed that the students were able to read a word and sentences correctly as well as got over their shiness and fear.

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ANNEXURE I

District Institute of Education and Training

Padalur, Perambalur District.

English - Pre-Test

Name.....

Class.....Sec.....

Adverb Exercises- Part 1

Bold or highlight the adverbs in the below- mentioned statements.

1. The competition went on smoothly.
2. He slowly moved his scooter into the lane.
3. They were breathing heavily as they ran.
4. The car moved swiftly through the path.
5. He usually dances at the celebrations.
6. She ate too quickly that she started coughing.
7. She was sitting silently on the bus.
8. He drives the car very well.
9. Sometimes, I keep thinking about my young days.
10. Luckily, he ran away from the robbers.

Do not see the answers without trying. Always attempt on your own and try answering on your own before seeing the answers.

Answers of the Adverb Exercises- Part 1

1. Smoothly
2. Slowly
3. Heavily
4. Swiftly
5. Usually
6. Quickly
7. Silently
8. Well
9. Sometimes
10. Luckily

Adverb Exercises - Part 2

Fill the blanks in the sentences by changing the given adjectives or the verbs into adverbs.

1. Meera laughed _____ at the kid's jokes. (loud)
2. The soldiers fight at the border front (brave)
3. Our team won the tournament(easy)
4. My boss screamed at his clerk. (angry)
5. The woman in red dress sang (sweet)
6. The professorfound a resolution. (clever)
7. The_____ (rare) see rhinos and lions.
8. My group members are _____(most) non-smokers.
9. I _____(sometime)sing in their group performance.
10. He drank the beverage_____ (noise) from the juice glass.

Do not see the answers without trying. Always attempt on your own and try answering on your own before seeing the answers.

Answers, Adverb Exercises - Part 2

1. Loudly
2. Bravely
3. Easily
4. Angrily
5. Sweetly
6. Cleverly
7. Rarely
8. Mostly
9. Sometimes
10. Noisily

Adverb Exercises - Part 3

Fill in the blanks with a suitable adverb and also name the type of adverb used to fill the blank.

1. She goes to the school at 7 o'clock.

once

ever

usually

2. They have been to the museum.

never

ever

3. She has been to India just

one

once

ones

4. I take a shower before leaving for work.

once

always

ever

5. My cousins live in Rajasthan. I meet them

once

often

6. My colleagues are hardworking.

most

mostly

7. She was fascinated with her dance.

too

much

very

8. I visit my grandparents in Sikkim

some time

sometime

sometimes

9. I watch Bollywood movies

once

always

occasionally

10. We go abroad.

rare

once

rarely

Do not see the answers without trying. Always attempt on your own and try answering on your own before seeing the answers.

Answers, Adverb Exercises - Part 3

1. She usually goes to school at 7 o'clock. (adverb of frequency)
2. They have never been to the museum. (frequency adverb)
3. She has been to India just once. (frequency)
4. I always take a shower before leaving for work. (frequency)
5. My cousins live in Rajasthan. I meet them often. (frequency)
6. My colleagues are mostly hardworking. (Focusing adverb)
7. She was very fascinated with her dance. (Degree adverb)
8. I sometimes visit my grandparents in Sikkim. (Frequency adverb)
9. I watch Bollywood movies occasionally. (Frequency adverb)
10. We rarely go abroad. (Frequency adverb)

Conclusion

Adverbs should be placed as near to the words they are designed to alter as possible. Placing the adverb in the incorrect location can result in a difficult sentence at best and a completely different meaning at worst. Only, which is one of the most commonly misplaced modifiers, should be avoided at all costs.

In reality, it is impossible to stop employing adverbs completely. We often require them in our sentences, and all the writers often employ them constructively.

The real tip is to completely avoid the use of redundant or extreme adverbs. Instead of using an adverb to add color while the verb or adjective doesn't seem robust or particular enough, try reaching for a better verb or adjective rather. You'll find a better term almost all of the time, and your work will be healthier and stronger.

Adverbs Exercises with Answers

Given below are exercises on adverbs. Try them out.

Identify the Adverbs

Read the sentences given below and underline the adverbs.

1. The boy is too careless.
2. The winds are very strong.
3. The baby slept soundly.
4. The soldiers fought the war valiantly.
5. Joey always tries his best.
6. Surely you are mistaken.
7. The movie is to end soon.
8. Your friend messaged again.
9. I did my homework already.
10. I was rather busy.
11. Is your mother within?
12. We looked for the lost puppy everywhere.
13. We do not know her.
14. How long is the trip?
15. Monica seldom visits here.

Answers –

1. Too
2. Very
3. Soundly
4. Valiantly
5. Always

6. Surely
7. Soon
8. Again
9. Already
10. Rather
11. Within
12. Everywhere
13. Not
14. How
15. Seldom

Use the Right Adverbs

Fill in the blanks by choosing the most appropriate adverb from the table.

out quickly forward pretty too

before often once somewhat so

1. Riya ran to her mother ____.
2. The scores are ____.
3. We have met ____.
4. I know him ____ well.
5. The baby is ____ sleepy.
6. The naughty boy is ____ annoying.
7. My aunt comes to visit us ____.
8. My grandpa is ____ better today.
9. I met a magician ____.
10. Ambition urges us ____.

Answers –

1. Quickly
2. Out
3. Before
4. Pretty
5. Too
6. So
7. Often
8. Somewhat
9. Once
10. Forward

Identify the Type of Adverb

Go through the given sentences and identify the type of adverb used in each sentence.

1. The boy practised his speech regularly.
2. The phone kept ringing constantly.
3. The people have gone out.
4. I have heard this story before.
5. Are you quite sure?
6. You are driving too carelessly.
7. I always try my best.
8. You are quite right.
9. He solved the problem quickly.
10. I have heard enough.
11. The boy often makes the same mistake.
12. Why are you still here?

13. I could hardly recognise him.
14. The little kid is too shy to sing.
15. The horse galloped away.

Answers –

1. Regularly – Adverb of Frequency
2. Constantly – Adverb of Frequency
3. Out – Adverb of Place
4. Before – Adverb of Time
5. Quite – Adverb of Degree
6. Too – Adverb of Degree
7. Always – Adverb of Frequency
8. Quite – Adverb of Degree
9. Quickly – Adverb of Manner
10. Enough – Adverb of Degree
11. Often – Adverb of Frequency
12. Why – Interrogative Adverb
13. Hardly – Adverb of Manner
14. Too – Adverb of Degree
15. Away – Adverb of Place

Frequently Asked Questions

Q1

What are adverbs?

Adverbs are those words that qualify/modify a verb, an adjective or another adverb.

Q2

How many types of adverbs are there?

There are eight types of adverbs which are as follows.

- Adverbs of Time
- Adverbs of Frequency
- Adverbs of Place
- Adverbs of Manner
- Adverbs of Degree
- Adverbs of Affirmation and Negation
- Adverbs of Reason
- Interrogative Adverbs

**IMPROVING THE UNDERSTANDING THE CONCEPT OF
AIR POLLUTION THROUGH ICT AMONG VI STANDARD
STUDENTS**

ACTION RESEARCH

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Submitted to



State Council of Educational Research and Training, Chennai – 600006

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INVESTIGATOR

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CERTIFICATE

This is to certify that the Action Research entitled “*IMPROVING THE UNDERSTANDING THE CONCEPT OF AIR POLLUTION THROUGH ICT AMONG VI STANDARD STUDENTS*”, submitted to the State council of Educational Research and Training, Chennai, is a record of original research work done by **S.UMADEVI**, LECTURER, DISTRICT INSTITUTE OF EDUCATION AND TRAINING, PADALUR, PERAMBALUR, 621109 as per the SCERT Action Research guidelines and it is not a portion of any other research source, published or unpublished without acknowledgment.

Place: Padalur, Perambalur Dt.

Signature of the Principal

Date:

**S.UMADEVI, M.Sc., M.Ed., M.Phil.,
Lecturer,
DIET, PADALUR,
PERAMABLUR– DISTRICT**

DECLARATION

I hereby declare that the action research work entitled “**Improving the Understanding the Concept of Air Pollution Through ICT among VI Standard Students**” submitted to DIET/SCERT is my original research work, that it has not found the basis for the award of any degree or another similar title of action research.

(S.UMADEVI)

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1. INTRODUCTION

Science is an interesting subject and teaching of science too will be interesting if the teacher is interested in teaching science. Understanding the concepts clearly is an important factor in the learning of science. Were by hearing the concept will not be useful while learning higher concepts in the higher classes and this was a major reason for the poor understanding among students. To give a better understanding among students new methodologies of teaching have to be adopted like using TLM and assignments. The conventional chalk and talk method will not be useful in teaching of science hence will not be useful in teaching of science hence it is compulsory to use the different methods for better understanding. In the recent times various novel techniques are available and more information are available in the interest which has to be made use of the science teacher s regularly to make their class active and interesting. There are many websites helping the teachers to teach science effectively are available in the internet, interesting and rare pictures, diagrams, animated diagrams experiments and many more things required for the science teaching.

Air pollution is the contamination of air due to the presence of substances called pollutants in the atmosphere that are harmful to the health of humans and other living being or cause damage to the climate. It

is also caused by burning soil wastes like some plastic gases or chemicals released from factories and fumes from aerosols or paint.

2. NEED OF THE STUDY

A Child's health and safety is very important in home and school environment children of upper primary schools should be given utmost care to develop their in core areas like physical, social, emotional and health and hygiene by the teacher and parents. In the family, school and community children should be fully protected and aware of such hazards due to air, water and noise pollution etc. So that they can grow, survive, learn and develop to their fullest potential.

Now a days children of all stages are not aware of evil effects of air pollution and other hazards around them. In order to protect the children from various evil effects, the investigator had planned to give clear idea and awareness on air pollution among students.

3. OBJECTIVES OF THE STUDY

- To identify the understanding level of air pollution among VI standard students.
- To develop appropriate strategies by incorporating ICT.
- To implement the strategies to enhance the understanding level of air pollution among VI standard students.

- To assess the understanding level of students on the concept air pollution.

4. STATEMENT OF THE PROBLEM

Lack of awareness among students on air pollution and its ill effects.

5. IDENTIFICATION OF THE PROBLEM

The investigator visited the Government HigherSecondary school, Elambalur in Perambalur district for testing the knowledge of the student .To test the students the investigator asked a few questions about air pollution and the students answered in appropriately the researcher understood the problems of the students. Hence he decided to take this topic for her research.

6. BACKGROUND OF THE STUDY

What is Air Pollution?

Air Pollution refers to any Physical, Chemical or biological change in the air. It is the contamination of air by harmful gases, dust and smoke which affects plants, animals and humans drastically.

There is a certain percentage of gases present in the atmosphere. An increase or decrease in the composition of these gases is harmful to survival. This imbalance in the gaseous composition has resulted in an increase in earth's temperature, which is known as global warming.

Air pollution is contamination of the indoor or outdoor environment by any chemical physical or biological agent that modifies the natural characteristics of the atmosphere.

Household combustion devices, motor vehicles, industrial facilities and forest fires are common sources of air pollution. Pollutants of major public health concern include particulate matter, carbon monoxide, ozone, nitrogen dioxide and sulphur dioxide. Outdoor and indoor air pollution cause respiratory and other diseases and are important sources of morbidity and mortality.

Types of Air Pollutants

They are two types of air pollutants:

Primary Pollutants:

The Pollutants that directly cause air pollution are known as primary Pollutants. Sulphur – dioxide emitted from factories is a primary pollutant.

Secondary Pollutants:

The Pollutants formed by the intermingling and reaction of primary pollutants are known as Secondary pollutants. Smog, formed by the intermingling of smoke and fog, is a Secondary Pollutant.

Causes of Air Pollution

Following are the important causes of air pollution:

Burning of Fossil Fuels

The Combustion of fossil fuels emits a large amount of sulphur dioxide. Carbon monoxide released by incomplete combustion of fossil fuels also results in air pollution.

Automobiles:

The gases emitted from Vehicles such as jeeps, trucks, cars, buses, etc., pollute the environment. These are the major sources of greenhouse gases and also result in diseases among individuals.

Agricultural Activities:

Ammonia is one of the most hazardous gases emitted during agricultural activities. The insecticides, pesticides and fertilisers emit harmful chemicals in the atmosphere and contaminate it.

Factories and Industries:

Factories and Industries are the main source of carbon monoxide, organic compounds, hydrocarbons and chemicals. These are released into the air, degrading its quality.

Mining Activities:

In the mining process, the minerals below the earth are extracted using large pieces of equipment. The dust and chemicals released during the process not only pollute the air, but also deteriorate the health of the workers and people living nearby areas.

Domestic Sources:

The household cleaning products and paints contain toxic chemicals that are released in the air. The smell from the newly painted walls is the smell of the Chemicals present in the paints. It not only pollutes the air but also affects breathing.

Effects of Air Pollution

The hazardous effects of air pollution on the environment include:

Diseases:

Air Pollution has resulted in several respiratory disorders and heart diseases among humans. The cases of lung cancer have increased in the last few decades. Children living near polluted areas are more prone to pneumonia and asthma. Many people die every year due to the direct or indirect effects of air pollution.

Global Warming:

Due to the emission of greenhouse gases, there is an imbalance in the gaseous composition of the air. This has led to an increase in the temperature of the earth. This increase in earth's temperature is known as global warming. This has resulted in the melting of glaciers and an increase in sea levels. Many areas are submerged under water.

Acid Rain:

The burning of fossil fuels releases harmful gases such as nitrogen oxides and sulphur oxides in the air. The water droplets combine with

these pollutants, become acidic and fall as acid rain which damages human, animal and plant life.

Ozone Layer Depletion:

The release of chlorofluorocarbons, halogens and hydro chlorofluorocarbons in the atmosphere is the major cause of depletion of the ozone layer. The depleting ozone layer does not prevent the harmful ultra violet rays coming from the sun and causes skin diseases and eye problems among individuals.

Effect on Animals:

The air pollutants suspend in the water bodies and affect aquatic life. Pollution also compels the animals to leave their habitat and shift to a new place. This renders them stray and has also led to the extinction of a large number of animal species.

Air Pollution Control:

Following are the measures one should adopt, to control air pollution:

Avoid Using Vehicles:

People should avoid using vehicles for shorter distances. Rather, they should prefer public modes of transport to travel from one place to another. This not only prevents pollution, but also conserves energy.

Use of Clean Energy Resources:

The use of solar, wind and geothermal energies reduce air pollution at a larger level. Various countries, including India, have implemented the use of these resources as a step towards a cleaner environment.

Other air pollution control measures include:

1. By minimising and reducing the use of fire and fire products.
2. Since Industrial emissions are one of the major causes of air pollution, the pollutants can be controlled or treated at the source itself to reduce its effects. For example, if the reactions of a certain raw material yield a pollutant, then the raw materials can be substituted with other less polluting materials.
3. Fuel substitution is another way of controlling air pollution. In many parts of India, Petrol and diesel are being replaced by CNG – Compressed Natural Gas fuelled vehicles. These are mostly adopted by vehicles that aren't fully operating with ideal emission engines.
4. Although there are many practices in India, which focus on repairing the quality of air, most of them are either forgotten or not being enforced properly. There are still a lot of vehicles on roads which haven't been tested for vehicle emissions.
5. Another way of controlling air pollution caused by industries is to modify and maintain existing pieces of equipment so that the emission of pollutants is minimised.

6. Sometimes controlling pollutants at the source is not possible. In that case, we can have process control equipment to control the pollution.
7. A very effective way of controlling air pollution is by diluting the air pollutants.
8. The last and the best way of reducing the ill effects of air pollution is tree plantation. Plants and trees reduce a large number of pollutants in the air. Ideally, planting trees in areas of high pollution levels will be extremely effective.

7. CAUSES OF THE PROBLEM

Children are not aware of the following:

- Various types of air pollution and hazards of air pollution.
- Precautionary measures to control air pollution.
- The scientific concepts like air pollution and its evil effects.
- Lack of interest to study the concept
- Poor participation in classroom activities.
- Lack of adequate time for teachers to practice.
- Lack of motivation by the teacher.

8. ACTION HYPOTHESIS

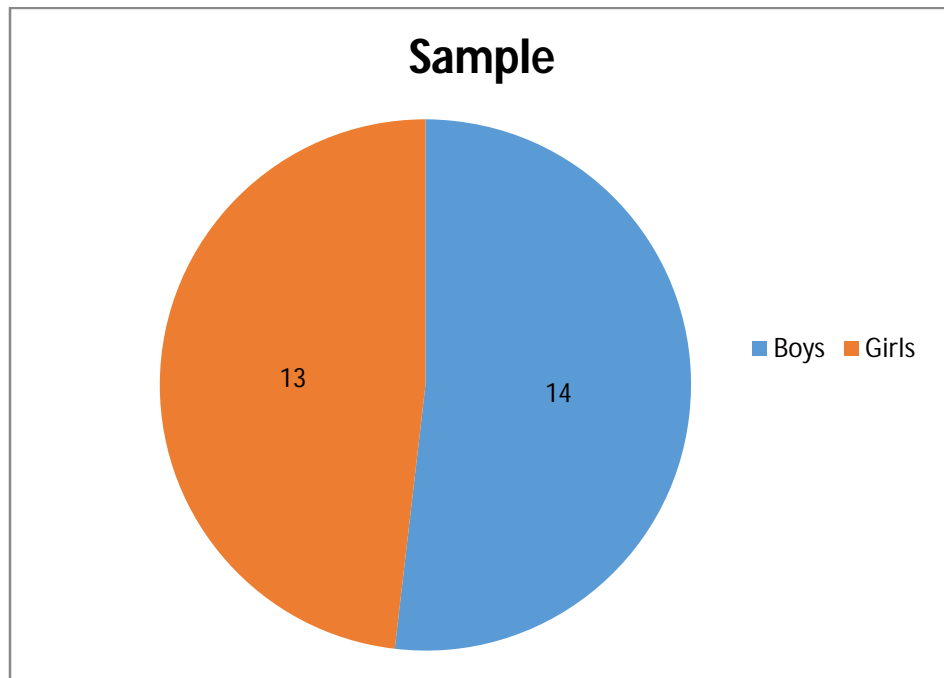
Animated videos and various activities will provide sufficient content knowledge on air pollution and awareness to the Sixth standard students.

9. ACTION PLAN

As the investigator proposed to evolve a viable solution, the action plan was made which consisted of different stages.

10.SAMPLE

Students who were studying standard sixth of Government Higher Secondary School, Elambalur in Perambalur District, were the sample of the study. There were 27 students presented in the class. Out of 27 students 14 were boys and 13 were girls. All the students were selected as the sample of the study.



11. TOOLS

- An achievement test conducted from the six standard science textbook was used as the tool for the study. Questions were constructed from the portion air pollution.
- A pre-test containing twenty MCQ type of questions.
- A post-test containing twenty MCQ type of questions, were used as the tools of study.

12. MEASURING THE PREVIOUS KNOWLEDGE

As the investigator observed that the students were not able to comprehend the air pollution. The investigator decided to teach it with proper strategies and activities. To measure the previous knowledge of students. The investigator conducted a pre-test. The tool consists of 20 questions. The scripts were valued; the result of the pre-test were

analysed. Based on the result the researcher observed that the concept of Air pollution was not well understood by some of the students. Based on the question wise analysis and interaction with the students the researcher designed some activities which are explained in the following sections of this chapter.

13. IMPLEMENTATION OF ACTIVITIES

Activity – I (Watch and learn)

The investigator had screened videos and songs about air pollution. These videos were downloaded from you tube and educational websites. After watching the videos the investigator discussed the information presented such as how air gets polluted, what are the harmful effects of air pollution and what measures could be taken to control it. This activity was carried out to teach students about air pollution in a fun and engaging way.

Activity – II (Matching)

The investigator had assigned a task to the entire class (i.e) matching items consisted of column A and B related to air pollution. The matching items have mainly focused on factors that lead to air pollution such as vehicle emission, factory smoke, burning of fossil fuel ... etc. After having read the matching item given in the chart, student were asked to match the appropriate answers which related to effects of air

pollution such as respiratory problem, acid rain, global warming etc. From this activity students could then match the factors in column A to the effects in column B. This activity helps students learn about the various factors that lead to air pollution elaborately.

Column A		Column B	
1.	Volcanic eruptions	-	Air
2.	Smoke from factories	-	Smoke and fog
3.	Pollution from auto mobiles	-	Stationary source of air pollution
4.	Living things need	-	Air Pollution
5.	Air Pollution can be reduced	-	Ozone depletion
6.	Global warming	-	Acid rain
7.	Acid rain	-	Carbon dioxide
8.	Smog	-	By walking
9.	Green house gases	-	Coal, petroleum
10.	Harmful gases	-	Natural source of air pollution
11.	Vehicle Exhaust	-	Green house gases
12.	Asthma	-	Mobile source of air pollution
13.	Freon	-	Carbon monoxide
14.	Fossil fuels	-	Sulphur dioxide & nitrogen dioxide
15.	Corrosion of buildings / monuments	-	Global warming

Activity – III (True or False)

The investigator had prepared a list of statements above air pollution some of which are true and some are false. In this activity group 'A' was asked to read out the statements and students of group 'B' could answer true or false. After having done this the investigator discussed the answers and cleared doubts. This activity helps students test their understanding of air pollution its causes and effects.

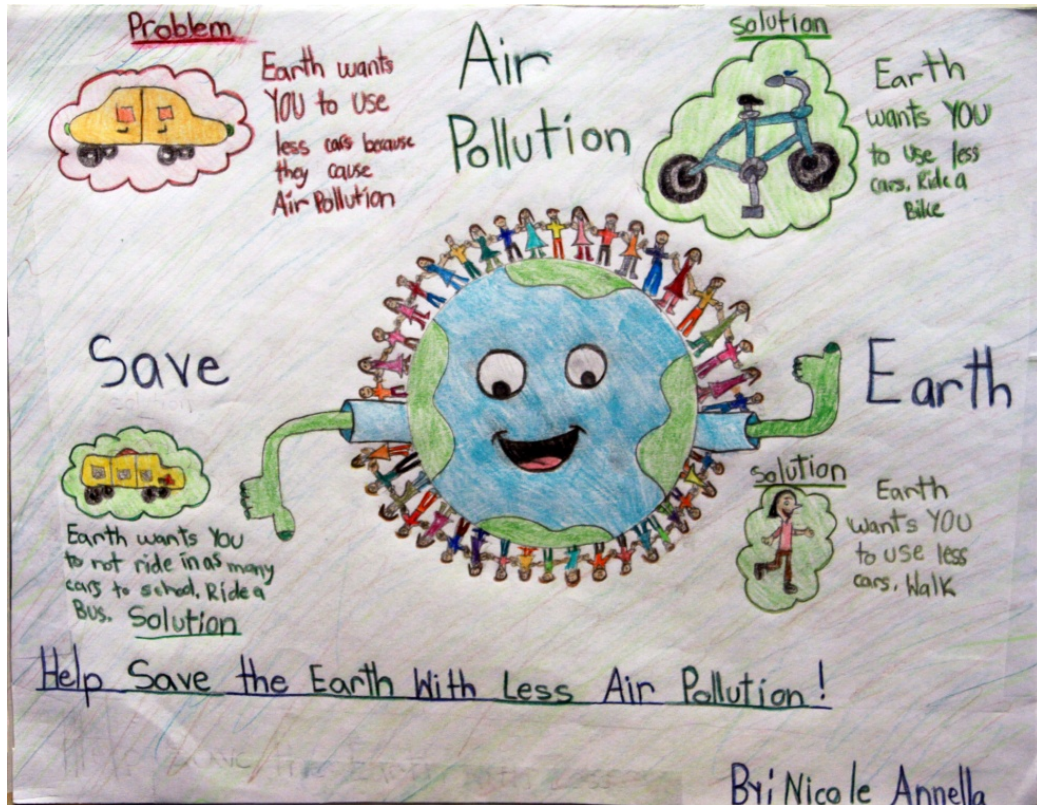
1. Air pollution is a problem only in big cities.
2. Air can be polluted only by human activities.
3. Air Pollutants do not affect the growth and yield of crops.
4. Air pollutants have detrimental effects on the respiratory system of humans.
5. Air pollution leads to global warming, acid rain, ozone depletion and a wide variety of respiratory diseases.
6. Over population is responsible for air pollution.
7. Pollutants are the substances that cause pollution.
8. Air pollution is now under control and will not be a problem in the future.
9. Vehicles contribute a lot to air pollution problems.
10. Clean air is the responsibility of industry alone.
11. We can see air pollution in the air.
12. Air is important for us to live and air pollution is bad for our health

13. Long term effects of air pollution can result in lung cancers, emphysema.

Activity – IV (Poster making)

In this activity charts, colour pencils, sketches and necessary drawing materials were distributed to all the students. The investigator gave some guidelines and simple instructions to create posters related to air pollution. The posters could only depict the causes and effects of air pollution and what measures could be taken to control it. This activity helps students raise awareness about air pollution and its control measures.





Activity – V (Bingo Game)

<p>PETROL</p> <p>a fossil fuel which, when burned, causes air pollution.</p>	<p>THE GREAT SMOG</p> <p>happened in 1952 and caused the early deaths of around 8,000 to 12,000 people.</p>	<p>NITROGEN DIOXIDE (NO₂)</p> <p>a harmful pollutant of air.</p>	<p>ASTHMA</p> <p>a condition which affects some people, making it harder for them to breathe.</p>
<p>IMMUNE SYSTEM</p> <p>helps your body fight off infections, and can be affected by air pollution.</p>	<p>CARS</p> <p>there are about 25 million of these on the roads in Britain.</p>	<p>LUNGS</p> <p>a part of your body which helps you to breathe.</p>	<p>PARTICULATES</p> <p>tiny particles of dust, soot, and liquid in the air, which are too small to see</p>
<p>POLLUTANTS</p> <p>particulates and nitrogen oxides are both examples of these.</p>	<p>ATMOSPHERE</p> <p>another name for the air around you.</p>	<p>AIR QUALITY</p> <p>a measure of how clean or dirty the air in a particular area is.</p>	<p>EXHAUST</p> <p>the part of a car which ejects dirty waste.</p>
<p>ACID RAIN</p> <p>damages trees and plants; nitrogen oxides contribute to it.</p>	<p>CONTAMINATED</p> <p>how air which contains pollutants could be described.</p>	<p>DIESEL</p> <p>a fossil fuel which is heavily polluting when burned.</p>	<p>BREATHE</p> <p>what we all do every few seconds.</p>

In this activity the investigator had chosen two players to play the game. The first player should cross any one of the definitions given in 4x4 column. The another player should cross the same definition which is given on the other side. Then he should start to cross any one the definitions keep playing until one who completes the task (Straight line, across, down, and diagonally). Would be declared as the winner. From this activity children have learnt about pollutants and the harmful effects of air pollution.

Activity – VI (Picture identification):

The investigator had distributed work sheets to all the students. Those worksheets have pictures of various activities and objects. After seeing the pictures, students were asked to circle those pictures that serving causes of air pollution. the investigator discussed the answers and explained why these activities cause air pollution. This activity helps students identify the causes of air pollution.

Air Pollution

Circle the pictures that create air pollution.



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Get more worksheets at www.kidscreations.com

Name: _____ Age: _____

Air Pollution

Air pollution is a type of environmental pollution that affects the air and is usually caused by smoke or other harmful gases. E.g. cars, airplanes and even fumes from spray cans. In other words, air pollution is the contamination of air due to the presence of a substance, which has a poisonous effect.

Click only on those pictures that cause air pollution.



Worksheet created by Jihan Dumont (Miss)

14. CONDUCTION OF POST TEST

Each and every item was practiced with the content. Students were called one by one and asked to discuss the types of air pollution and its ill effects. After discussing the content orally written test was given at each topic. By completing one topic the previous topic was also combined for the written test to encourage the children score was given.

After completing the treatment the post test was conducted to measure the performance of achievements of the students and the effect of the strategies used.

15. ANALYSIS OF THE DATA

The collected data were analysed by applying mean and average. The results are presented in the following table. Marks scored in the pre-test and post- test. Sample are given in table.

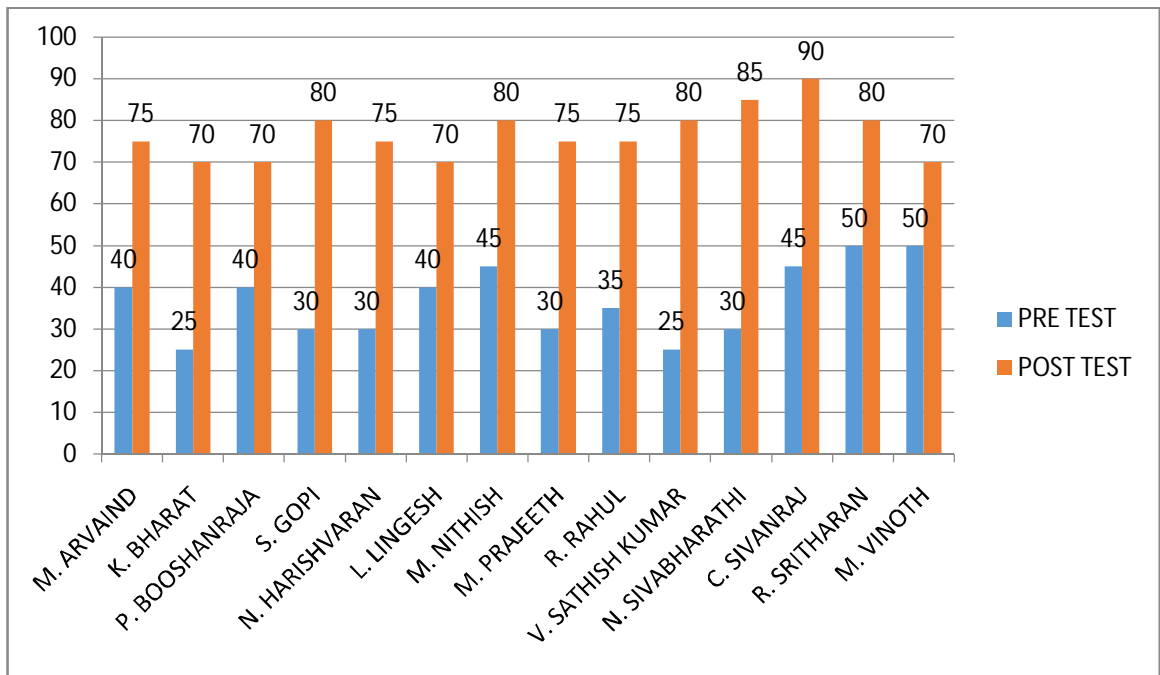
TABLE

**CONDUCTION OF PRE TEST AND POST TEST SCORES OF
THE STUDENTS**

SL.NO		PRE TEST SCORE	POST TEST SCORE
	NAME OF THE STUDENTS		
BOYS			
1	M. ARVAIND	40	75
2	K. BHARAT	25	70
3	P. BOOSHANRAJA	40	70
4	S. GOPI	30	80
5	N. HARISHVARAN	30	75
6	L. LINGESH	40	70
7	M. NITHISH	45	80
8	M. PRAJEETH	30	75
9	R. RAHUL	35	75
10	V. SATHISH KUMAR	25	80
11	N. SIVABHARATHI	30	85
12	C. SIVANRAJ	45	90
13	R. SRITHARAN	50	80
14	M. VINOOTH	50	70

PRE TEST AND POST TEST COMPARSION

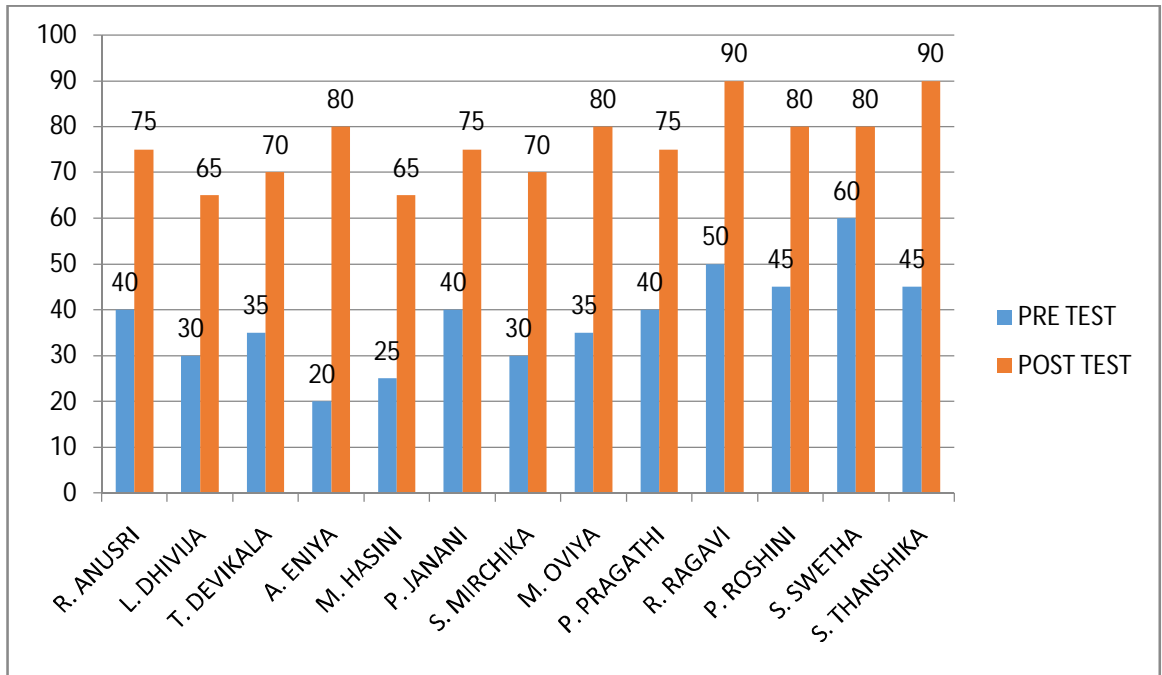
BOYS



SL.NO	NAME OF THE STUDENTS	PRE TEST SCORE	POST TEST SCORE
	GIRLS		
1	R. ANUSRI	40	75
2	L. DHIVIJA	30	65
3	T. DEVIKALA	35	70
4	A. ENIYA	20	80
5	M. HASINI	25	65
6	P. JANANI	40	75
7	S. MIRCHIKA	30	70
8	M. OVIYA	35	80
9	P. PRAGATHI	40	75
10	R. RAGAVI	50	90
11	P. ROSHINI	45	80
12	S. SWETHA	60	80
13	S. THANSHIKA	45	90

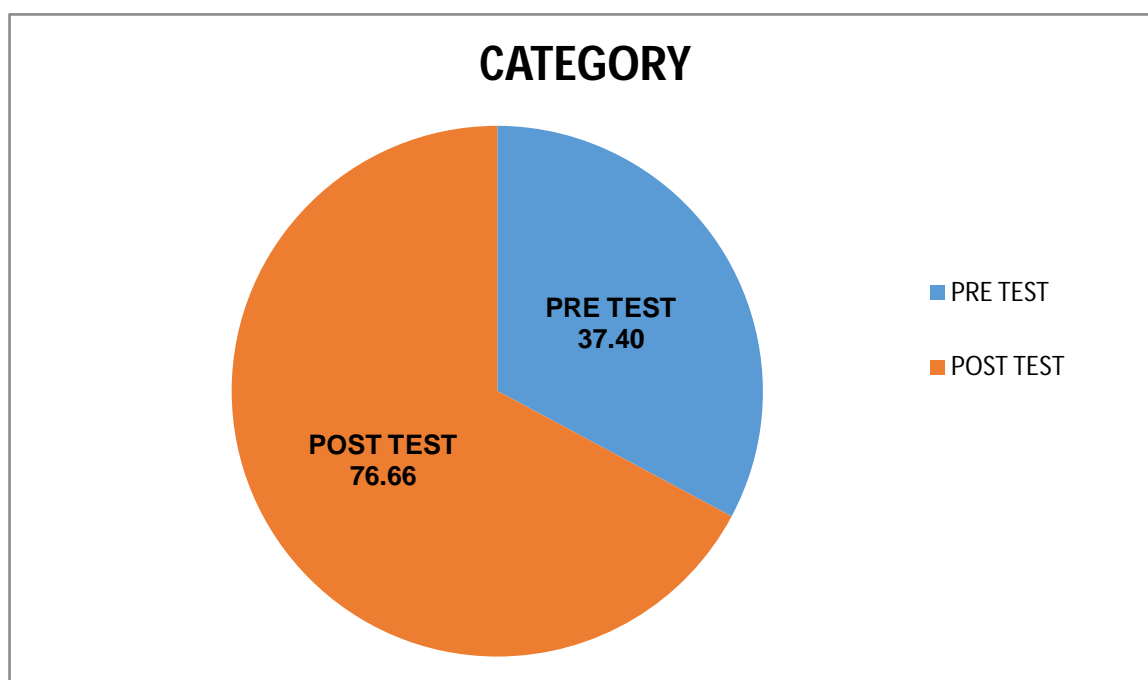
PRE TEST AND POST TEST COMPARSION

GIRLS



SI.NO	CATEGORY	MEAN
1	PRE-TEST	37.40
2	POST-TEST	76.66

The table shows that the mean difference of the pre-test is 37.40 and post-test is 76.66. It shows the higher difference the pre-test and post-test scores among the students. It infers the difference may be due to the techniques used by the investigator.



16. FINDINGS

The salient features of the study are enumerated in the Pre-Test Mean Value was 37.40 and in the Post-Test the Mean value was 76.66. The greater mean difference was found between Pre-Test and Post-Test Scores.

17. EDUCATIONAL IMPLICATIONS:

1. Students have got sufficient content knowledge and awareness on air pollution through videos, songs, games and individual activities etc.
2. Students were motivated to use various techniques in learning process.
3. Students of upper primary schools could learn and get awareness in air pollution related issues through guided learning in a better way.

18. RECOMMENDATIONS:

- Organizing awareness rallies on air pollution at regular intervals.
- Giving opportunity to the students to participate in a workshop on “Air Pollution”.
- Organizing exhibition on air pollution.
- Preparing activity bank, quiz, puzzles and games etc., on air pollution.
- Collecting rare videos and portraits on air pollution and its impacts.
- Collecting Key messages, Songs and Stories on air pollution.

19. SUGGESTION

It is understood that the usage of appropriate methods and techniques will help the students to enhance the knowledge of air pollution&its ill effects in the day to day life. The proper classroom

atmosphere given by the investigator made the students to learn the content easily and the different activities encouraged the students and they participated eagerly.

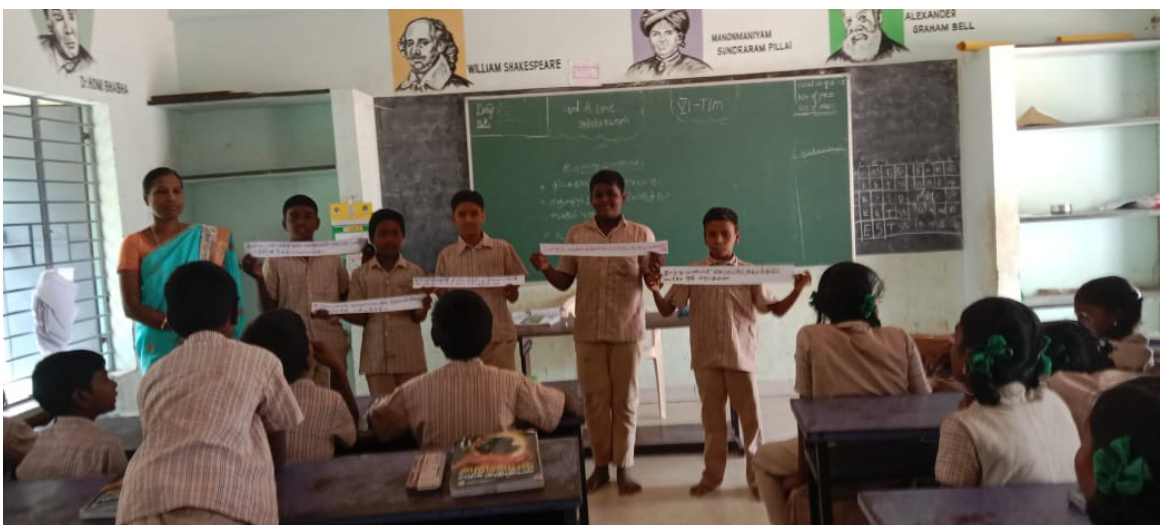
20. CONCLUSION

IMPROVING THE UNDERSTANDING THE CONCEPT OF AIR POLLUTION THROUGH ICT AMONG VI STANDARD STUDENTS Government Higher Secondary school, Elambalur in Perambalur district, was carried out the practitioner, the aims and objective of the study were fulfilled and it is evident from the post-test scores of the study. In this study the practitioner made an attempt to prove the effectiveness of some selected practices during the treatment and came out with positive results. The investigator asked the teacher to follow the appropriate methodology to teach the competency of understanding the concept of air pollution and the teacher was also asked to create the proper atmosphere to teach the content.

21. REFERENCES

- Six Standard Science Text Book, Tamilnadu text book corporation.
- Andersen ZJet al. (2008b). Ambient air pollution triggers wheezing symptoms in infants. *Thorax*, 63(8):710–716.
- Andersen ZJet al. (2012b). Long-term exposure to air pollution.

22. PHOTOS





முன் தேர்வு / பின் தேர்வு
அறிவியல்

I. சரியான விடையை தேர்ந்தெடுத்து எழுதுக

20x1 = 20

1. பின்வருவனவற்றுள் எந்த வகையான காற்று மாசுபாடு சுவாச பிரச்சனையை ஏற்படுத்தும்?

- அ) புகைப்பனி ஆ) அமிழ் மழை இ யூட்ரோ பிகேஷன்
ஈ) ஓசோன் சிதைவு

2. பின்வருவனவற்றுள் எது அமிலத்தன்மைக்கு காரணம்

- அ) நீர் மாசுபாடு ஆ) ஒலி மாசுபாடு
இ) நில மாசுபாடு ஈ) காற்று மாசுபாடு

3. எந்த வகையான மாசு சுவாச அமைப்பு தொடர்பான பல்வேறு நோய்களை ஏற்படுத்தும்?

- அ) ஒலி மாசுபாடு ஆ) காற்று மாசுபாடு
இ) நில மாசுபாடு ஈ) நீர் மாசுபாடு

4. பின்வருவனவற்றுள் எது காற்று மாசுபாட்டிற்கான காரணங்களாக கருதப்படலாம்

- i) காலநிலை மாற்றம் ii) கிரீன் ஹவுஸ் வாயு வெளியேற்றம்
iii) கனரக வாகனங்கள் இயக்கம்

- அ) i மற்றும் ii ஆ) i மற்றும் iii இ) ii மற்றும் iii
ஈ) i, ii, iii

5. காற்று மாசுபாட்டின் அதிகரிப்பினால் ஏற்படும் விளைவு

- அ) மண் அரிப்பு ஆ) புவி வெப்பமடைதல்
இ) சுவாச பிரச்சனைகள் ஈ) அனைத்தும்

6. பின்வரும் தொழிற்சாலைகளில் எந்த தொழிற்சாலை காற்று மாசுபடுத்துவதில் பெரும் பங்கு வகிக்கிறது

- அ) செங்கல் உற்பத்தி தொழிற்சாலை ஆ) வாயுக்களை உற்பத்தி செய்யும் தொழிற்சாலை
இ) மின்சார பொருட்கள் உற்பத்தி செய்யும் தொழிற்சாலை
ஈ) அனைத்தும்

7. கீழ்க்கண்டவற்றுள் எது இந்தியாவில் காற்று மாசுபாட்டிற்கான முக்கிய காரணியாக இருக்கிறது?

- அ) தூசு மற்றும் கட்டுமானம் ஆ) விவசாய எரிப்பு
இ) போக்குவரத்து ஈ) தொழிற்சாலைகள்

8. அதிக அளவு ஒசோன் வாயு காரணமாக மாசு அதிகரிப்பதால் ஒருவர் மேற்கொள்ளவேண்டிய முன்னெச்சரிக்கை நடவடிக்கை எது?

- அ) நிறைய தண்ணீர் மற்றும் திரவ உணவுகளை எடுத்துக்கொள்ளுதல்
ஆ) சூரிய ஒளியில் குறைவாக வெளிப்படுவது
இ) அ மற்றும் ஆ ஈ) ஏதுவும் இல்லை

9. அமில மழையினால் ஏற்படும் சேதம்

- அ) பெரிய சிற்பங்கள் மற்றும் பளிங்கு கட்டுமானங்கள்
ஆ) மரங்களின் வளர்ச்சி இ) மனிதன் ஈ) அனைத்தும்

10. அமிலமழை உருவாவதற்கான காரணம்

- அ) சல்பர் டை ஆக்சைடு ஆ) நைட்ரஜன் ஆக்சைடு இ) அ மற்றும் ஆ
ஈ) தூசு

11. அமிலமழைக்கான முதன்மை ஆதாரமாக இருப்பது

- அ) நில மாசுபாடு ஆ) நீர் மாசுபாடு இ) காற்று மாசுபாடு
ஈ) அனைத்தும்

12. தாஜ்மகால், பொற்கோயில், இந்தியாகேட் போன்ற புகழ்பெற்ற நினைவு சின்னங்கள் ----- ஆல் பாதிக்கப்படுகின்றன

- அ) காற்று மாசுபாடு ஆ) நீர் மாசுபாடு
இ) ஒலி மாசுபாடு ஈ) அனைத்தும்

13. காற்று மாசுபடுத்திகள் வளிமண்டலத்தில் சேர காரணம்

- அ) இயற்கை மட்டுமே ஆ) மனிதன் மட்டுமே
இ) அ மற்றும் ஆ ஈ) ஏதுவும் இல்லை

14. தேவையற்ற பொருட்களால் காற்று மாசுபடும் பொது எவற்றுக்கு தீங்கு ஏற்படுகிறது? அ) உயிருள்ளவை ஆ) உயிரற்றவை

- இ) அ மற்றும் ஆ ஈ) ஏதுவும் இல்லை

15. காற்றில் உள்ள மாசுத்துகள்கள் எதற்கு வழிவகுக்கும் ?

- அ) இரத்த அழுத்தத்தின் அளவு அதிகரிப்பு ஆ) மார்பில் இறுக்கம்
இ) பலவீனமான இரத்த உருவாக்கம் ஈ) சுவாச நோய்கள் மோசமடைதல்

16. சுற்றுதூழலில் காற்று மாசடைவதற்கான முக்கிய காரணம்

- அ) வாகனங்களின் புகை ஆ) மின் உற்பத்தி நிலையங்கள்
இ) தொழிற்சாலைகள் ஈ) அனைத்தும்

17. பின்வருவனவற்றுள் காரினால் ஏற்படும் மாசுபாடு

- அ) காற்று மாசுபாடு ஆ) ஒலி மாசுபாடு
இ) கிரீன் ஹவுஸ் வாயு அதிகரிப்பு ஈ) அனைத்தும்

18. காற்று மாசுபாடு அடைவதற்கான முக்கிய காரணம்

- அ) படிம எரிப்பொருட்களை எரித்தல் ஆ) காடு வளர்ப்பு
இ) காடுகள் அழிப்பு ஈ) காகித மறுசுழற்சி

19. பின்வருவனவற்றில் எது காற்று மாசுபாட்டிற்கான காரணி அல்ல?

- அ) விறகு எரித்தல் ஆ) காற்றாலை
இ) மின் உற்பத்தி நிலையம் ஈ) வாகனங்களின் புகை

20. காற்று மாசுப்பாட்டை குறைப்பதற்கான வழிகள்

- அ) திடக்கழிவுகளை எரிக்கக் கூடாது ஆ) பட்டாசுகள் வெடிப்பதை தவிர்த்தல்
இ) வாகனங்களை தவிர்த்து அருகில் உள்ள இடங்களுக்கு நடந்தோ அல்லது
மிதிவண்டியிலோ செல்லலாம்

ஈ) அனைத்தும்

ACTION RESEARCH REPORT

**ENHANCING THE UNDERSTANDING OF HUMAN ORGAN SYSTEM
AMONG V STANDARD STUDENTS THROUGH ANIMATED
EXPLAINER VIDEOS**

INVESTIGATOR

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BLOCK INSTITUTE OF TEACHER EDUCATION

VEPPUR - PERAMBALUR DT

Submitted to



**STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING,
CHENNAI - 600 006**

2023 - 2024

CERTIFICATE

This is to certify that the Action Research entitled **“ENHANCING THE UNDERSTANDING OF HUMAN ORGAN SYSTEM AMONG V STANDARD STUDENTS THROUGH ANIMATED EXPLAINER VIDEOS”** submitted to the State council of Educational Research and Training, Chennai, is a record of original research work done by **Mrs. D.DEVARAJAKUMARI. Lecturer, BLOCK INSTITUTE OF TEACHER EDUCATION (BITE), Veppur, Perambalur District.** As per the **SCERT** Action research guidelines and it is not a portion of any other research source, published or unpublished without acknowledgment.

PRINCIPAL

District Institute of Education and Training

Padalur, Perambalur Dt.

DECLARATION

I hereby declared that the Action Research report entitled “**ENHANCING THE UNDERSTANDING OF HUMAN ORGAN SYSTEM AMONG V STANDARD STUDENTS THROUGH ANIMATED EXPLAINER VIDEOS**” is an original and independent work done by me and it has not formed the basis for any other programme, action research work (or) any award.

D.DEVARAJAKUMARI,

Lecturer,

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Veppur, Perambalur District

ACKNOWLEDGEMENT

I extend my thanks to God the almighty for his grace to complete this work successfully. I express my sincere thanks to our respectable **DIRECTOR** and our **JOINT DIRECTORS** and **DEPUTY DIRECTORS** of SCERT, Chennai for providing this opportunity.

My deep sense of gratitude to **Mr.K. RAJHA** Principal, DIET, Padalur, Perambalur Dt. for his valuable suggestions and advice to complete this work.

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I extend my heart full thanks to the Headmistress **Mrs. A.THILAGAVATHI DAISY** Panchayat Union Primary School, Nerukunam and students for their kind co-operation to complete the Action Research.

D.DEVARAJAKUMARI

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ENHANCING THE UNDERSTANDING OF HUMAN ORGAN SYSTEM AMONG V STANDARD STUDENTS THROUGH ANIMATED EXPLAINER VIDEOS

1. INTRODUCTION

The human body is a single structure, but it is made up of billions of smaller structures of four major kinds: cells, tissues, organs, and systems. An organ is an organization of several different kinds of tissues so arranged that together, they can perform a special function. A system is an organization of varying numbers and kinds of organs so arranged that together they can perform complex functions for the body. we're going to explore the incredible human body and learn about the different systems that keep us alive and kicking. Just like a team works together to win a game, our body systems work together to keep us healthy. Let's check them out!

- 1. The Skeletal System:** This is like the framework of a building, but for our bodies. It gives us our shape and protects important organs like the brain and heart.
- 2. The Muscular System:** Muscles are the body's movers and shakers. They work with the bones to help us run, jump, and even blink our eyes!
- 3. The Respiratory System:** Think of this as our body's air supply. We breathe in oxygen, which our body needs to make energy, and breathe out carbon dioxide, which is a waste product.
- 4. The Circulatory System:** This system is like a delivery service that uses blood to carry oxygen and nutrients to every part of our body. The heart is the powerful pump that keeps everything moving.
- 5. The Digestive System:** It's our body's food processor. We put food in our mouth, and this system breaks it down so our body can use it for energy and building materials.
- 6. The Nervous System:** This is the body's communication network. It sends signals all around the body to tell us how to respond to what's happening around us.

Each of these systems doesn't work alone. They are all interconnected and depend on each other to keep our body in tip-top shape. Isn't it amazing how our body works like a well-oiled machine? Now, let's take care of it by eating healthy, staying active, and getting plenty of rest!

ANIMATED EXPLAINER VIDEOS

Animated explainer videos are short films that explain abstract concepts and relationships, usually in an educational context. They apply storytelling techniques and focus on relevant facts using different visualizations.

Animated explainer videos are a great way to make educational content more engaging and accessible. They can help students understand complex concepts and retain information more effectively. Here are some resources that can help you create animated explainer videos for education. An animated explainer videos can create a more engaging atmosphere in the classroom. Animated explainer videos play a crucial role in education by simplifying complex concepts and engaging students. Here's why they are effective:

WHAT ARE THE BENEFITS OF USING EXPLAINER VIDEOS IN EDUCATION?

1. Improved Information Retention

When learners can see and hear information at the same time, they can process it more quickly and effectively.

2. Visual Learning: Animated videos leverage the power of visual learning. By combining images, text, and narration, they break down intricate topics into digestible segments, making it easier for students to understand and remember

3. Enhanced Understanding of Concepts

It can be used reinforce learning in a visually appealing and succinct manner. Visual learning can be more effective than traditional methods.

4. Increased Engagement

Explainer videos are an effective tool to increase engagement in education, as they have a positive effect on the three types of engagement: behavioral, cognitive, and emotional.

5. Increased Interest

Videos also make information more digestible by breaking it down into digestible parts, rather than overwhelming the learner with all the details at once. Additionally, educational Animated explainer videos make learning fun by adding cute characters, cheerful narrators.

6. Improved Aesthetic Appeal

Animated explainer videos can greatly improve the aesthetic appeal of educational content by providing a visually engaging medium. Through the use of vibrant colors, simple graphics, typography, and animation, explaine videos create an engaging environment for learning.

7. Make learning more enjoyable

Explainer videos are an effective tool for making learning more enjoyable by engaging multiple senses simultaneously; allowing learners to process information at their own pace, and providing visual aids that help students remember what they have learned.

2. NEED FOR THE STUDY

For V graders, understanding the human body's organs can be challenging. Visualizing these structures through animations makes learning more accessible and engaging. Children often learn better through visuals. They help students grasp concepts more effectively than traditional text - based methods. Animated videos allow students to virtually dissect and explore the human body. They can visualize organs, their locations, and functions. Animated videos capture students' attention.

3. IDENTIFICATION OF THE PROBLEM

The investigator observed her regular visits, observation and interaction with students and later with the subject teacher and finally found the lack of clarity in the concept of the Human organ system among the V standard students of Panchayat Union Primary School, Nerkunam, Veppanthattai Block, Perambalur District. The investigator decided to take up the problem for Action Research and to adopt a different methodology.

4. OBJECTIVES

- To identify the problem of understanding the concept of the Human organ system among V standard students
- To develop the appropriate Animated Explainer video of the Human organ system
- To implement the Animated Explainer video among V Standard students.
- To assess the level of understanding the concept of Human organ system among V standard students.

5. HYPOTHESIS OF THE STUDY

- Teaching the concept of the Human organ system through Animated explainer video would improve the average score of V standard students.
- There is a significant difference between pre-test and post-test scores academic performance in boys and girls.

6. METHODOLOGY

The present study comes under experimental type. It's a single group pre-test and post-test design.

PRE - TEST



POST - TEST



7. SAMPLE OF THE STUDY

The study is planned for V standard students of Panchayat Union Primary School Nerkunam, Veppanthattai Block, Perambalur Dt, consisting of 20 students were the sample of the study.



8. RESEARCH TOOL

- The following research tools were used by the investigator in this study. The achievement test will be used as a tool.

9. TREATMENT

The students have the freedom to approach the teacher whenever they have doubts. While introducing a new topic the teacher asks to the student's the pre requisite knowledge from the lesson and correlate with life oriented examples and to be introduced. The subject topics should be discussed in detail. If student's performance well, the student should not be compared with others. It will affect the Students and creates a kind of fear and panic about the subject matter. So the concept Human organ system through Animated explainer videos was used by the students. The performance of students in science is well; Animated explainer videos will improve a great significance for the study.

PROCEDURE

The procedure for the study is experimental



Identify by achievement in concept of Human organ system



Pre / post test tool preparation



Hypothesis formulation



Administration of tool for pre test



Using of Experiments technique



Administration of tool for post test



Data collection and analysis



Testing of Hypothesis



Finding



Conclusion

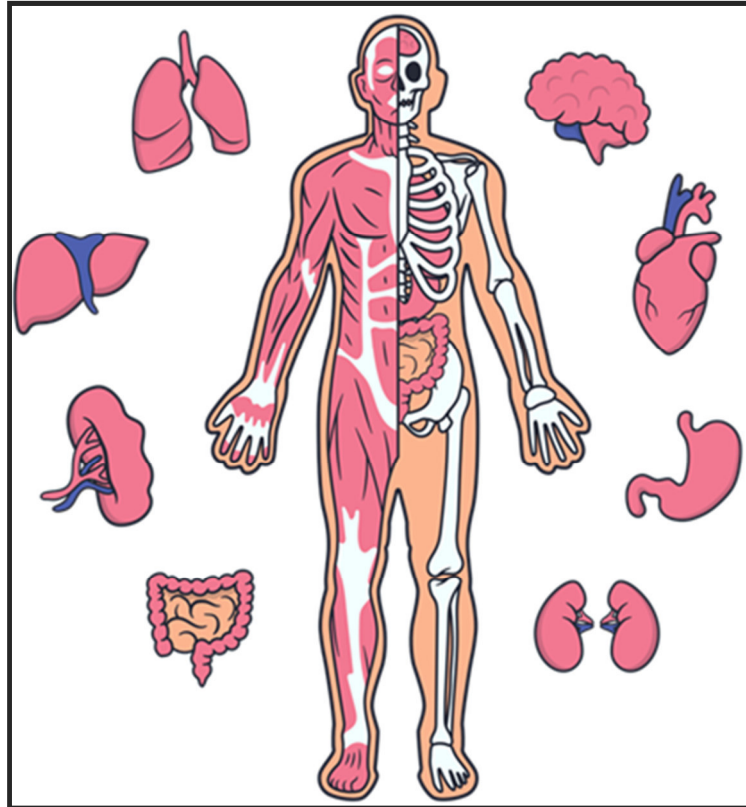
INTERVENTION

- Animation explainer videos
- Power point
- Worksheet
- Interactive learning video



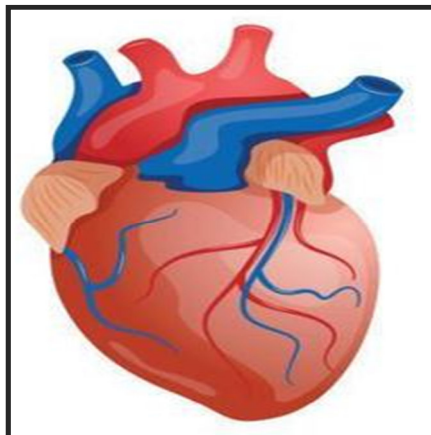
ACTIVITY - 1

- Researcher have shown the structure of the human organ system through PPT to teach the identification of organs and their function.

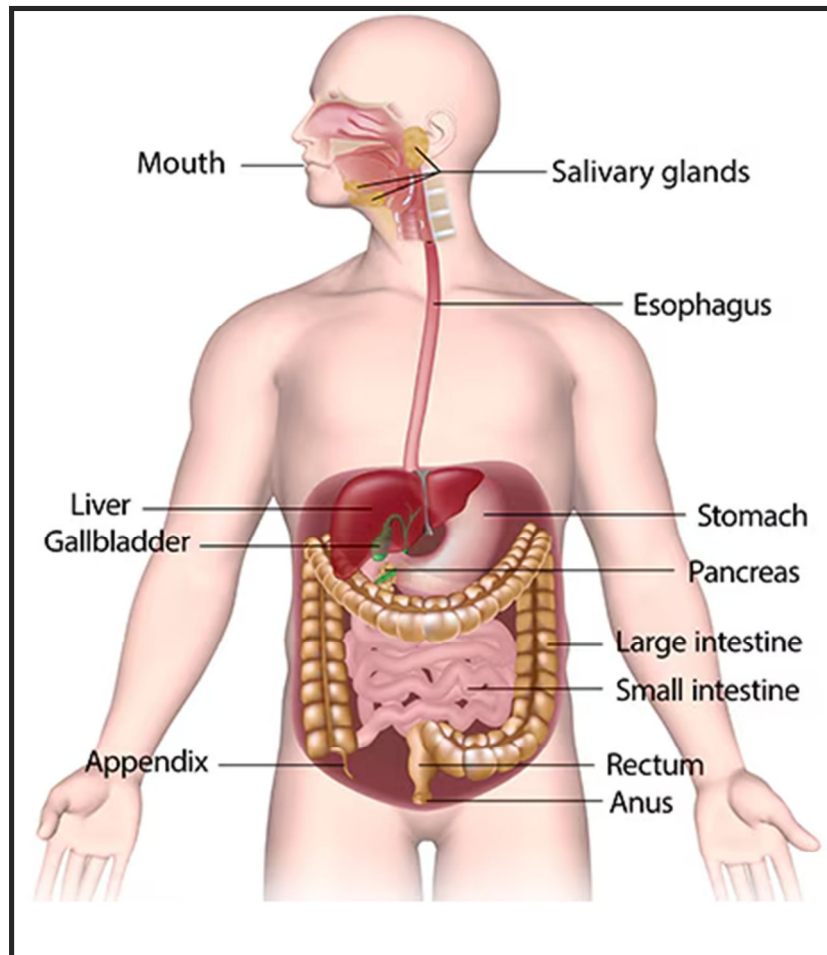


HUMAN ORGANS

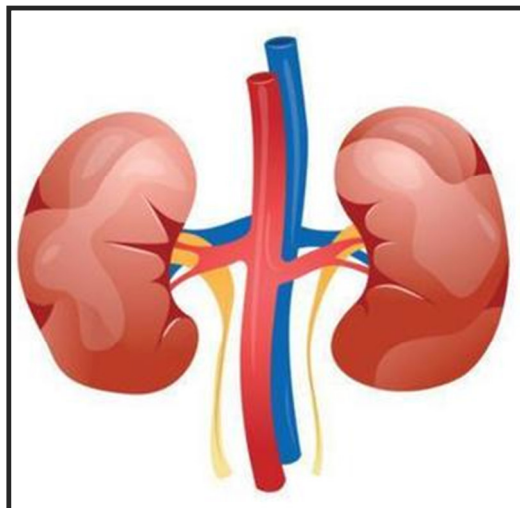
HUMAN HEART



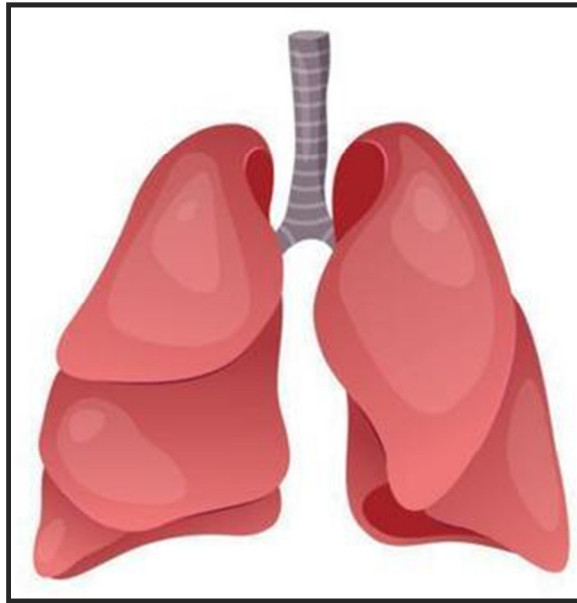
HUMAN DIGESTIVE SYSTEM



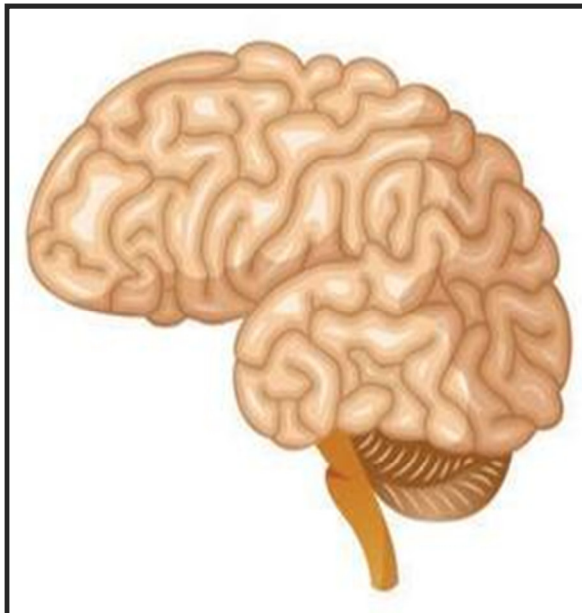
HUMAN KIDNEY



HUMAN LUNGS



HUMAN BRAIN



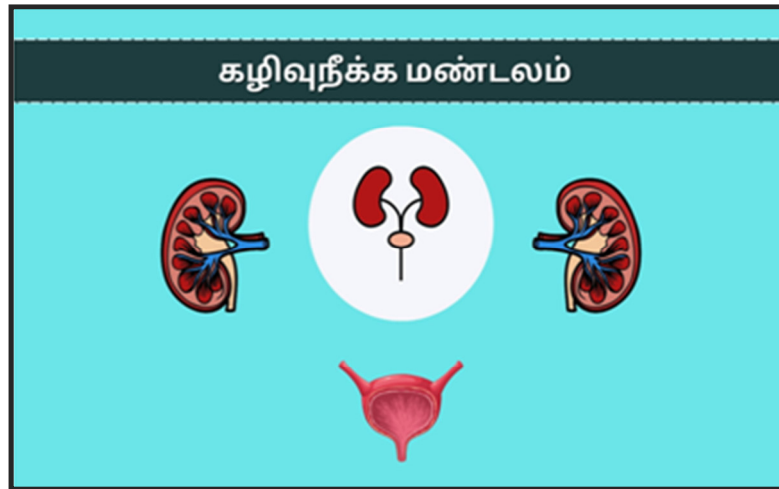
ACTIVITY - 2

- Researcher have shown the Human Nervous system and Excretory system through animated explainer videos and students to understand the importance of each part of our body.



Nervous system - Animated explainer Video Link:

<https://drive.google.com/file/d/1I9FvD3y7kAuEqXZFzdf8waKOs77HV1ng/view?usp=drivesdk>




Excretory system - Animated explainer Video Link:

https://drive.google.com/file/d/1_D2k0vLpGCqjwPLdtsTCgKnWuf_CpBav/view?usp=drivesdk



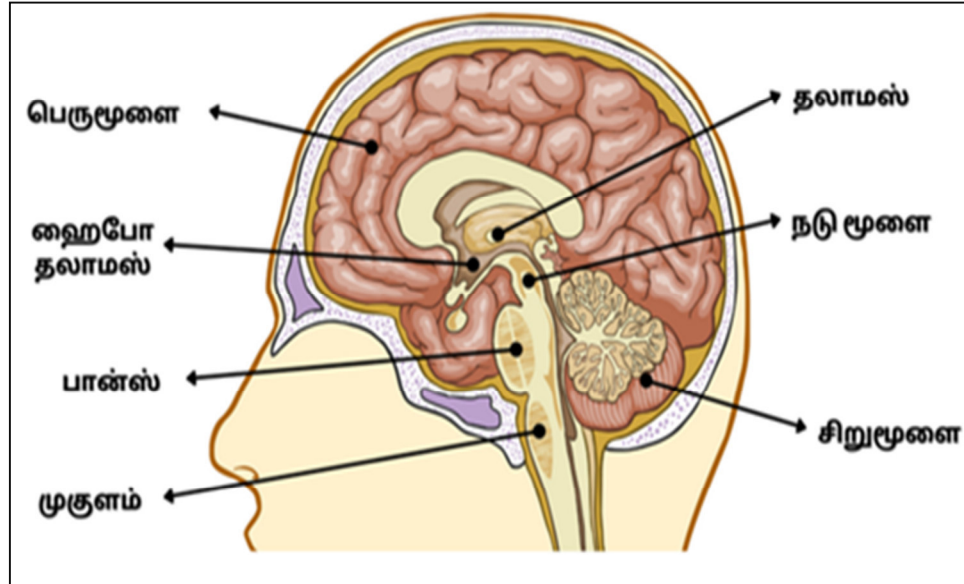
ACTIVITY – 3

- Through interactive video-based learning (Edpuzzle Apps) researcher have shown the structure and function of the human brain through video and assessed the students' level of understanding the subject knowledge of the parts of the human brain and its function.



Edpuzzle | Make Any Video Your Lesson
Easily create beautiful interactive video lessons for your students you can integrate right into your LMS. Track students' progress with hassle-free analytics as you flip your
edpuzzle.com

<https://edpuzzle.com/join/bacojil>



ACTIVITY – 4

- The researcher provided them with human excretion system parts carved from cardboard and made the students participate actively by making them fix the cutouts of the excretory system parts in the correct place. This session motivated all the students to learn with full understanding.



ACTIVITY – 5

- Through interactive video-based learning (Edpuzzle App) Researcher have shown the Respiratory system through video and the students answered all the levels of questions. This made the students understand the structure and function of the Respiratory system.

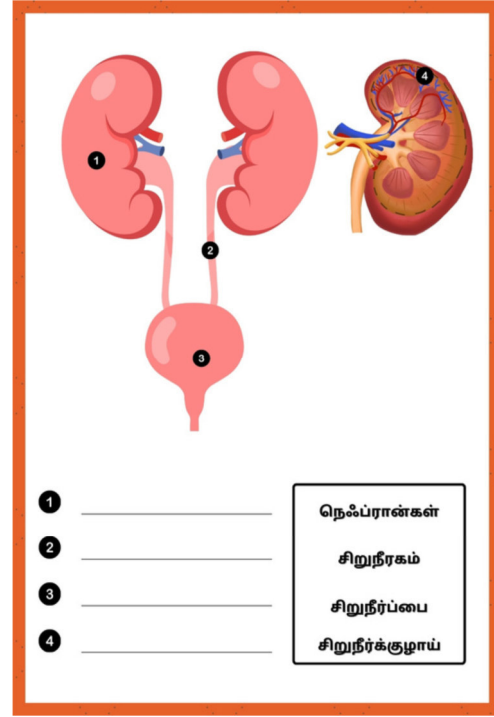
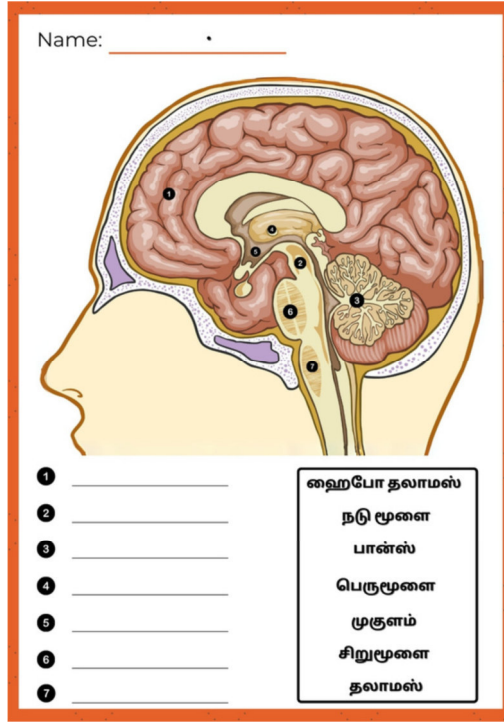


Class Link: <https://edpuzzle.com/join/gogzoga>

ACTIVITY 6

- Researcher provided the worksheet with the images of Human Brain structure, Kidney structure and asked the students to give the correct answers in the space outlined.





FEED BACK

To explain the concept of micro organism the students to know it thoroughly with animation technique. They should learn it thoroughly and they have to tell the teacher that they have learnt it in a perfect manner.

ACHIEVEMENT TEST

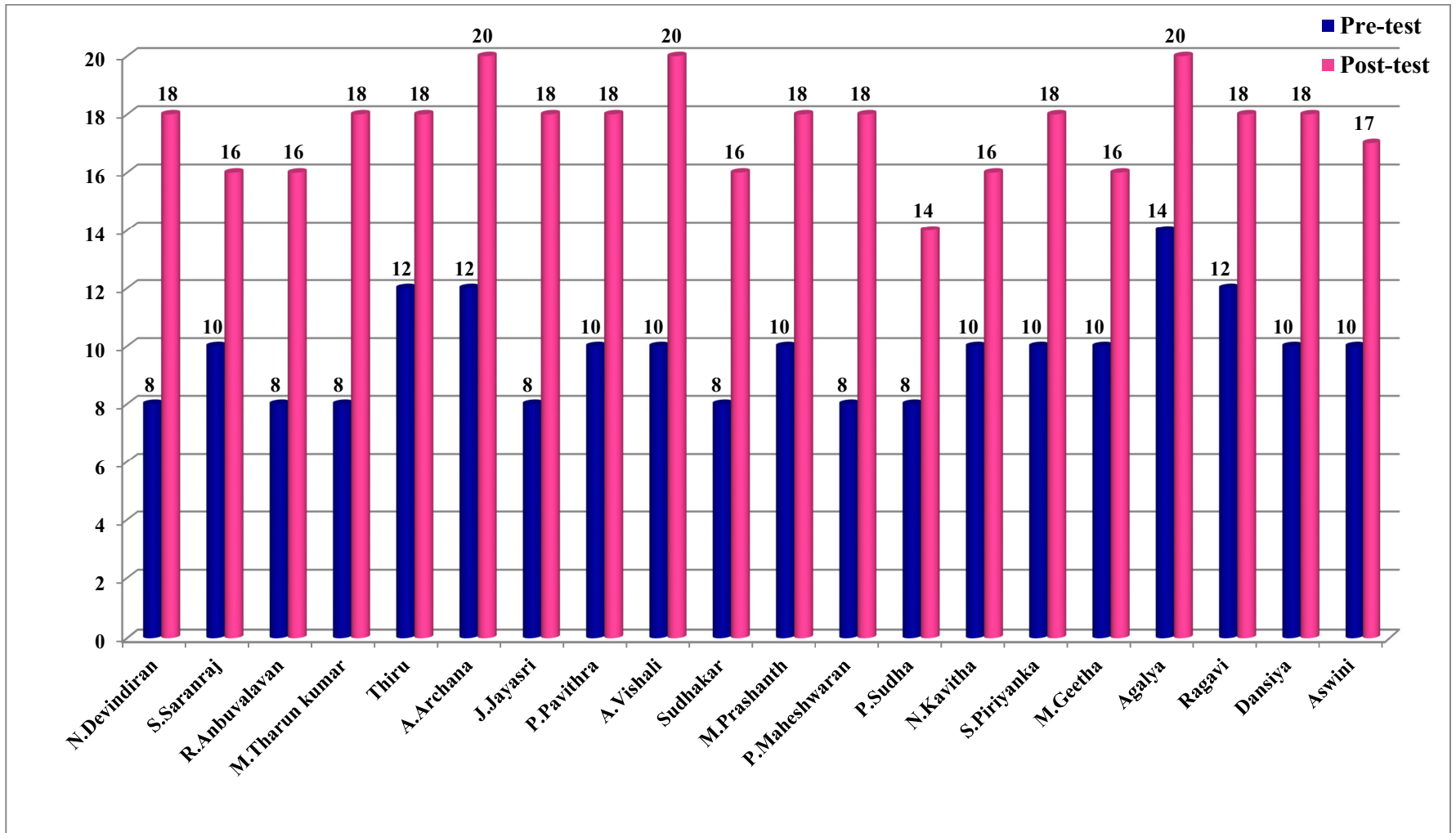
Probing some questions in the concept of Human organ system and testing the achievement level of the students.

13. STATISTICAL TECHNIQUES USED IN THE STUDY

The pre-test and post-test scores of students will be compared. The statistical calculation will be analysed for the mentioned work. Mean, Standard deviation and 't' values will be calculated.

14. DATA COLLECTION AND ANALYSIS

S.NO	NAME	PRE-TEST	POST TEST
1	N.Devindiran	8	18
2	S.Saranraj	10	16
3	R.Anbuvalavan	8	16
4	M.Tharun kumar	8	18
5	Thiru	12	18
6	A.Archana	12	20
7	J.Jayasri	8	18
8	P.Pavithra	10	18
9	A.Vishali	10	20
10	Sudhakar	8	16
11	M.Prashanth	10	18
12	P.Maheshwaran	8	18
13	P.Sudha	8	14
14	N.Kavitha	10	16
15	S.Piriyanka	10	18
16	M.Geetha	10	16
17	Agalya	14	20
18	Ragavi	12	18
19	Dansiya	10	18
20	Aswini	10	17



15. MEAN AND STANDARD DEVIATION

Test	No of participants	Mean Value	SD Value	t-Value	Level of significance
Pre-Test	20	4.7	0.58	15.76	2.001
Post-Test	20	8.9	0.73		

- The above table infers that the Post-test Mean score is 8.9, higher than the Pretest Mean score of 4.7. It clearly shows that the performance of V standard students in understanding of Human organ system is increased. The 't' value 15.76 is higher than the table value 2 at 0.05. Hence, there is a significant difference between Pre-test and Post-test performance of V standard students.

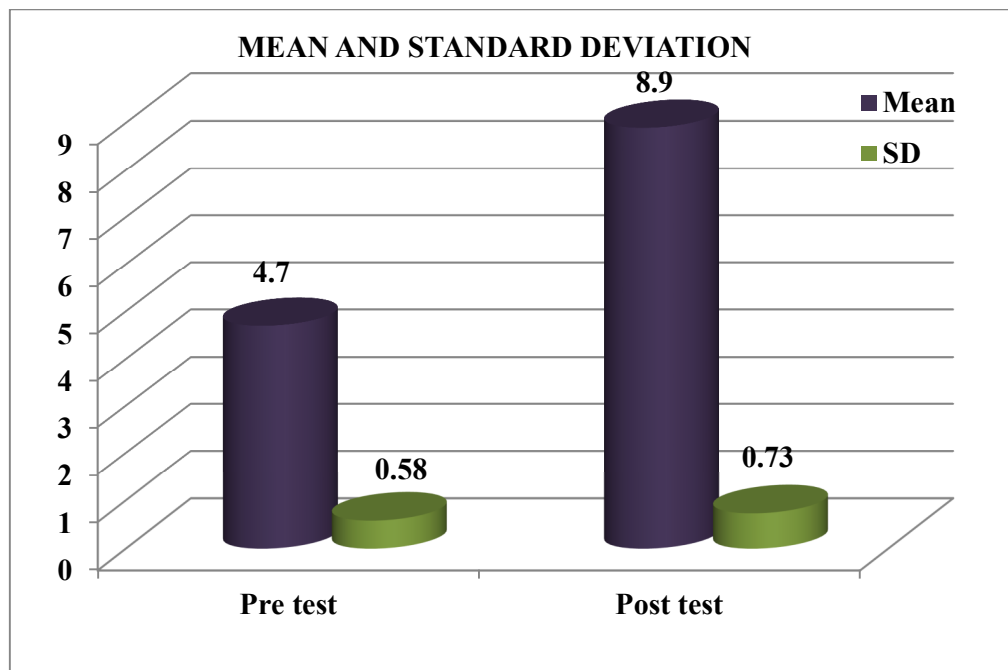


TABLE SHOWS MEAN, STANDARD DEVIATION VALUES OF PRE TEST BOYS AND GIRLS

Pre-Test	No of participants	Mean	Standard Deviation
Boys	08	4.93	0.73
Girls	12	5.58	0.82

The above table infers that the Pre - Test of Boys Mean score is 4.93 and is lower than the Pre Test of Girls Mean score of 5.58. It shows that the performance of V standard students in the concept of Human organ system is improved through the Animated explainer video.

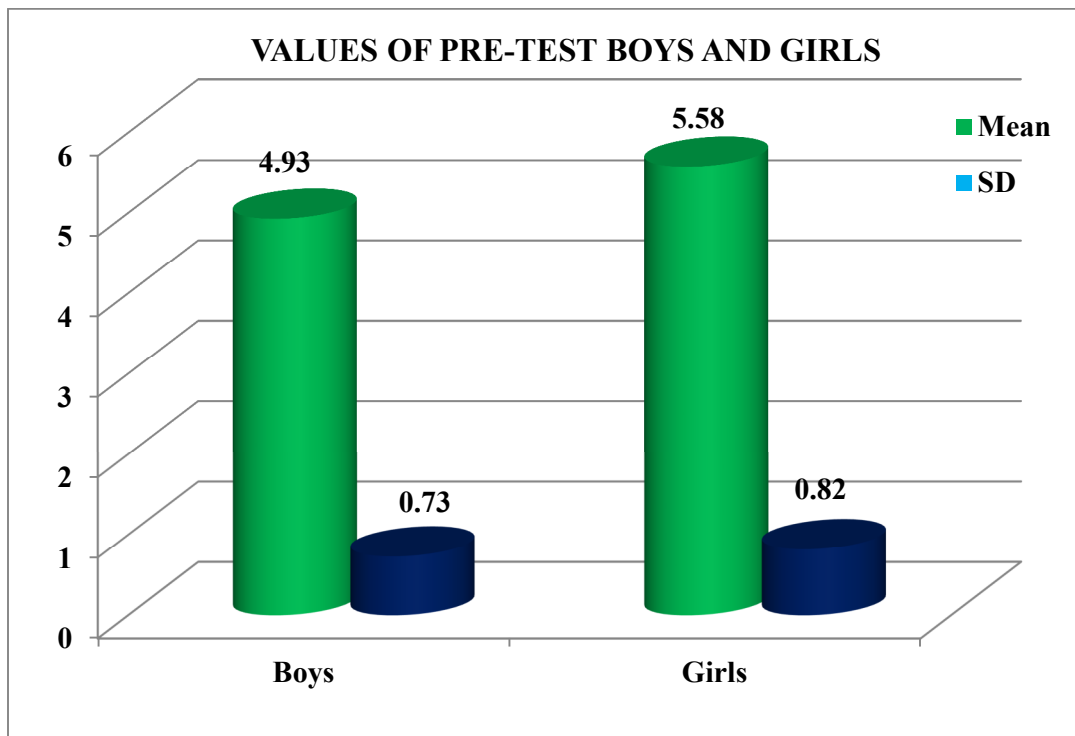
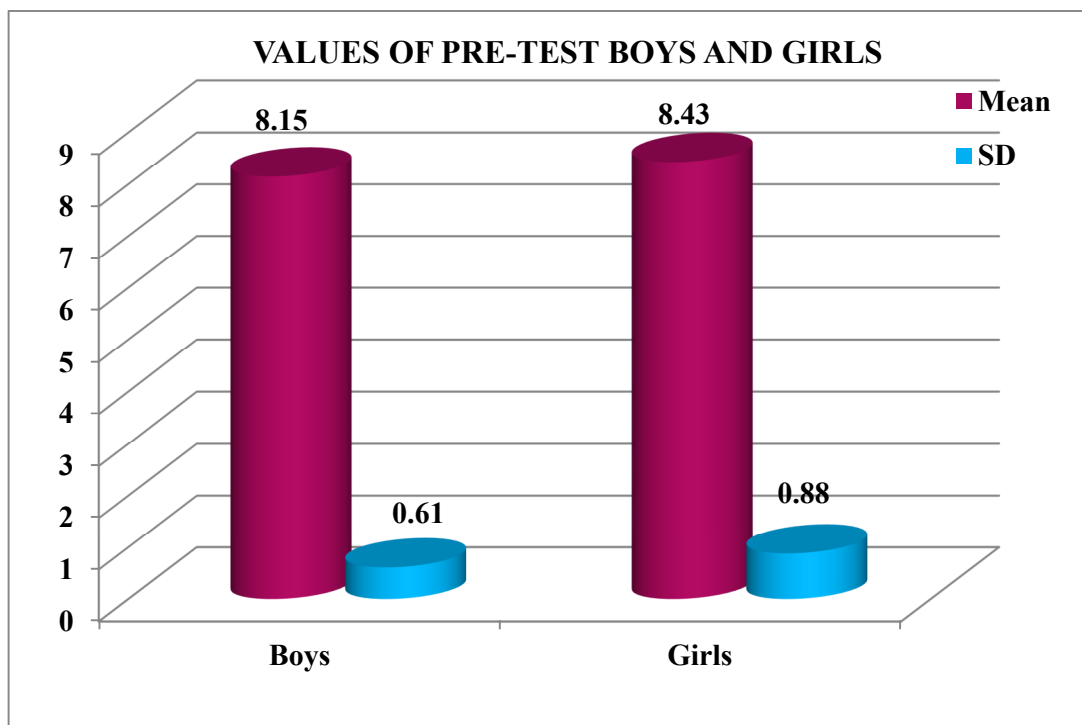


TABLE SHOWS MEAN, STANDARD DEVIATION VALUES OF POST TEST OF BOYS AND GIRLS

Post-Test	No of participants	Mean	Standard Deviation
Boys	08	8.15	0.61
Girls	12	8.43	0.88

The above table infers that the Post Test of Boys Mean score is 8.15 and is lower than the Post Test of Girls Mean score of 8.43. It shown that the performance of V standard students in the concept of Human organ system is improved through the Animated explainer video.



16. FINDINGS AND CONCLUSIONS

The following are the findings of the study

- The average mean scores of Pre-test were 4.7 and the post-test 8.9.
- The Standard Deviation varies from 0.58 to 0.73 for Pre- and Post-tests.
- The average Mean scores of boys' and girls' pre-tests are 4.93 and 5.58.
- The average Mean scores of boys and girls in the post test are 8.15 and 8.43.
- So the Animated Explainer Video on the understanding of the Human organ system has a good impact on the performance of V standard students.

17. CONCLUSION

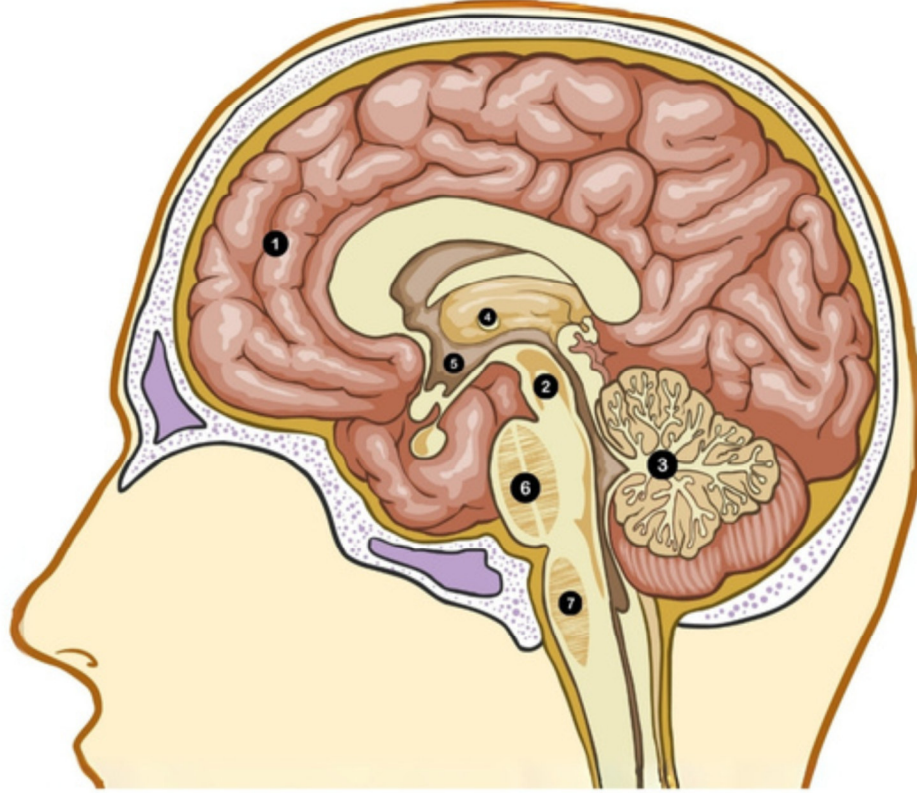
- The present Researcher has proved that the Animated Explainer video technique improved the effectiveness of the science concept of Human organ system performance among students at Primary level.
- The investigator has identified Animated Explainer video technique based teaching to improve the Human organ system concept performance among students.
- Animated explainer videos serve as powerful tools for teaching human organ systems. They bridge the gap between complex content and student comprehension, making learning enjoyable and effective. As educators, incorporating these videos can enhance the overall learning experience for V graders.

18. REFERENCES

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3. Human Physiology by NM Muthayya
4. Wikipedia <https://en.wikipedia.org>.List of systems of the human body

WORK SHEET - 1

Name: _____



- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____
- 6 _____
- 7 _____

ஹைபோ தலாமஸ்

நடு மூளை

பான்ஸ்

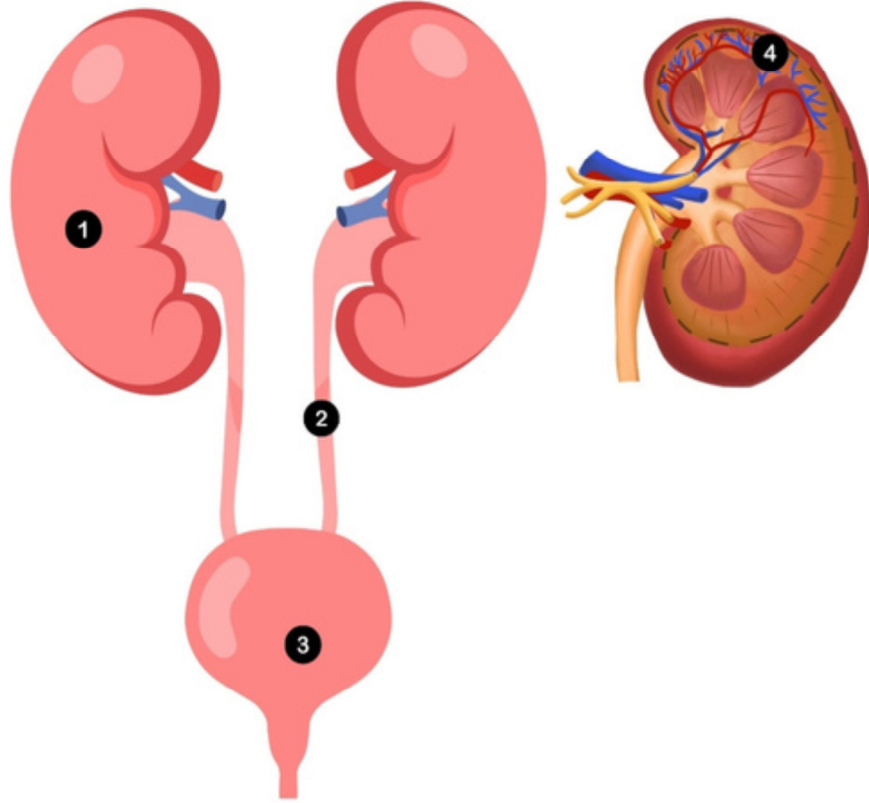
பெருமூளை

முகுளம்

சிறுமூளை

தலாமஸ்

WORK SHEET - 2



- 1 _____
- 2 _____
- 3 _____
- 4 _____

நெஃப்ரான்கள்
சிறுநீரகம்
சிறுநீர்ப்பை
சிறுநீர்க்குழாய்

- 12]. மூளையின் செயல்பாட்டு அலகு.
 அ) நியூரான் ஆ) நெஃப்ரான் இ) மூளைத்தண்டு ஈ) நரம்புகள்
- 13]. மூளையானது----- எனப்படும் உறையினால் சூழப்பட்டுள்ளது.
 அ) பெரிகார்டியம் ஆ) நெஃப்ரான் இ) மெனின்ஜஸ் ஈ) மார்பறை
- 14]. மூளை---- எனப்படும் எலும்பு பெட்டகத்துடன் பாதுகாப்பாக உள்ளது .
 அ) மெனின்ஜஸ் ஆ) பெரிகார்டியம் இ) உதீர விதானம் ஈ) கிரேனியம்
- 15]. மூளையின் மிகப்பெரிய பகுதி எது?
 அ) முன்மூளை ஆ) நடுமூளை இ) பின் மூளை ஈ) முகுளம்
- 16]. மனித நினைவாற்றலின் மையம் என்று அழைக்கப்படுவது ?
 அ) முன்மூளை ஆ) நடுமூளை இ) பின் மூளை ஈ) முகுளம்
- 17]. உடல் தசைகளின் இயக்கத்தை ஒருங்கிணைப்பது ?
 அ) முன்மூளை ஆ) நடுமூளை இ) பின் மூளை ஈ) முகுளம்
- 18]. பின்வருவனவற்றுள் ஒன்று இதயத் துடிப்பை கட்டுப்படுத்துகிறது.
 அ) இதயம் ஆ) முன்மூளை இ) நடுமூளை ஈ) பின் மூளை
- 19]. மூளைத்தண்டு என்று அழைக்கப்படுவது எது?
 அ) சிறுமூளை ஆ) முன்மூளை இ) பின் மூளை ஈ) நடுமூளை
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 அ) சிறுமூளை ஆ) முன்மூளை இ) நடுமூளை ஈ) முகுளம்

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- 14]. உங்கள் சிறுநீரகங்கள் உங்கள் உடலில் உள்ள அமைப்பின் எந்தப் பகுதி?
 அ) இனப்பெருக்க அமைப்பு ஆ) சுவாச அமைப்பு
 இ) இரைப்பை குடல் ஈ) சிறுநீர் அமைப்பு
- 15]. நம் உடலில் சிறுநீரகங்கள் எங்கே உள்ளன?
 அ) பின்புறம், இடுப்புக்கு சற்று மேலே ஆ) பின்புறம், நுரையீரலுக்குப் பின்னால்
 இ) தொப்புளுக்கு அருகில் ஈ) கணைய சுரப்பியின் பின்னால்
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 அ) புரதம் ஆ) சோடியம் இ) உணவு சாயங்கள் ஈ) ஏ மற்றும் பி
- 17]. சிறுநீரகத்தின் வடிவம் என்ன?
 அ) இது ஒரு ஒவல் வடிவ உறுப்பு ஆ) இது பீன் வடிவ உறுப்பு
 இ) இது செவ்வக வடிவில் உள்ளது ஈ) இதற்கு நிலையான வடிவம் இல்லை
- 18]. நரம்பு மண்டலத்துடன் தொடர்புடைய உறுப்பு எது ?
 அ) மூளை ஆ) சிறுநீரகம் இ) இரைப்பை ஈ) இதயம்
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 அ) 1.35 லி ஆ) 1.25 லி இ) 1.45 லி ஈ) 1.55 லி

ACTION RESEARCH NUMBER (2023-24)

- 1. Name of the Investigator** : K.SELVAM, M.Sc., M.Ed., M.Phil.
- 2. Name of the DIET** : Block Institute of Teacher Education
Veppur - Perambalur district.
- 3. Title** : Developing the Understanding of Air Pollution Among
Standard V Students
- 4. Objective** :
 - To identify the Problems of understanding the concept of Air Pollution.
 - To develop the Multimedia techniques by incorporating videos and PowerPoint of Air Pollution.
 - To implement the Multimedia techniques among V standard students.
- 5. Sample** : The sample had collected from the Panchayat Union Primary School, Moongilpadi, Veppur block, Perambalur District. Totally 20 V standard students had selected who are 13 boys and 07 girls from this.
- 6. Test** : The investigator had taken all the students of V standard from Panchayat Union Primary School, Moongilpadi, Veppur block, Perambalur District. The investigator conducted the achievement of pre-test in identifying the previous knowledge of Plant Air Pollution through the achievement test question paper.
- 7. Methodology** :
 - Experimental method
 - Single group- Pre-test, and Post-test design
- 8. Findings** :

The following are the findings of the study

 - The average means score of pre-test is 34.25 and post-test is 72.5
 - The average mean scores of boys and girls pre-test is 35.38 and 32.5.
 - The average mean scores of boys and girls post-test is 75.00 and 73.57.

The greater mean difference was found between Pre-Test and Post-Test Scores (38.25%).

PHOTOS

Pre-test



Post-test



Activity



Activity

