

Effectiveness of Traditional Teaching Method Vs Digital Teaching Method on Knowledge among Nursing Interns on Mechanism of Labour at DVVPF’s College of Nursing, Ahilyanagar, Maharashtra, India

¹Dr. Pratibha Chandekar, Professor and Principal, Community Health Nursing Department, Dr. Vitthalrao Vikhe Patil Foundation’s, College of Nursing, Vilad Ghat, Ahilyanagar, 414111, Maharashtra, India

²Mrs. Kavita Bhoknal, Associate Professor, Obstetrics & Gynaecological Nursing Department, Dr. Vitthalrao Vikhe Patil Foundation’s, College of Nursing, Vilad Ghat, Ahilyanagar, 414111, Maharashtra, India

³Ms. Mohini Sonawan, Assistant Professor, Obstetrics & Gynaecological Nursing Department, Dr. Vitthalrao Vikhe Patil Foundation’s, College of Nursing, Vilad Ghat, Ahilyanagar, 414111, Maharashtra, India

⁴Mr Nitin Nirmal, Assistant Professor, Mental Health Nursing Department, Dr. Vitthalrao Vikhe Patil Foundation’s, College of Nursing, Vilad Ghat, Ahilyanagar, 414111, Maharashtra, India

Corresponding Author: Dr. Pratibha Chandekar, Professor and Principal, Community Health Nursing Department, Dr. Vitthalrao Vikhe Patil Foundation’s, College of Nursing, Vilad Ghat, Ahilyanagar, 414111, Maharashtra, India

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Abstract

Background: Nursing as a practical discipline, requires students to develop nursing skills. Use of Digital Media, Visual-Aid and clinical competence with good communication skills facilitate optimal teaching learning process. Nursing education demands both theoretical understanding and clinical proficiency. Incorporating digital tools such as multimedia and simulations can enhance learning outcomes.

Material and Method: A post-test-only experimental design was adopted at DVVPF's College of Nursing, Ahilyanagar, Maharashtra. A total of 126 nursing interns were randomly assigned to control (traditional teaching) and experimental (digital teaching) groups. Both groups received lectures and demonstrations; the experimental

group additionally received a YouTube video and mannequin-based demonstration (Mummy Nataly). Data were collected using a validated structured questionnaire. Statistical analyses included descriptive statistics, unpaired t-tests, and chi-square tests.

Results: In this study Knowledge score of two-tailed P value equals 0.0018 ($t = 3.1927$, $df = 124$, standard error of difference = 0.348, this difference is considered to be very statistically significant. While Practice score, two-tailed P value equals 0.0001 ($t = 3.9132$, $df = 124$, standard error of difference = 0.333) this difference is considered to be extremely statistically significant. Also, findings reveal that there was significant association found between the knowledge and practice with age and gender demographic variables.

Conclusion: The Digital method of teaching was found to be more effective among nursing interns as compared to traditional teaching method. Digital teaching methods significantly enhance both knowledge and practice skills among nursing interns. The integration of digital tools in nursing curricula is recommended to foster effective, engaging, and self-directed learning.

Keywords: Digital teaching Method, Mechanism of Labour, Traditional Method

Introduction

Researchers of education constantly explore the impact of learning environment in relation to learning outcome. The social and communicative interaction between teacher and Student has been an important part of classroom teaching.¹ Currently there has been a change in electronic education due to favorable online environment due to increased Internet connectivity, speed, and accessibility.² In a review, medical students have preferred web tutorials compared to traditional lecture-based such as accessibility, good quality of images, and repeat practice possibility. Web-based learning due to continuous development and updating has become an important tool in evidence-based medicine³, although there are advantages in web-based learning, the important limitations to online learning are student isolation and technical problems. Students miss the regular classroom online education⁴. To overcome these drawbacks, integrating classroom problem-solving sessions with online web-based education are necessary.⁵ In the past decade, there is an increase in e-learning in higher education offering some form of distance education.⁶ Self-directed learning is more relevant among the medical students. Hence, the present study has been taken to know the influencing factors in their learning. As there are fewer studies among the medical students,

this study has been under taken to know the difference in outcome between traditional and online learning among medical undergraduate students.

The effect of traditional versus e-learning on nursing Student's academic achievement study was conducted at the Faculty of Nursing, King Khalid University, Saudi Arabia. The e-learning has revealed that there is a statistically significant difference between the two methods in terms of nursing students' achievement.⁷ The impact of traditional and interactive learning activities on personal and professional development among Saudi intern nurses showed better attitude in terms of caring, respect and sensitivity towards the needs and well-being of their patients, while considering personal factors⁸.

Effectiveness of blended learning with a flipped classroom design on student academic achievement in a Bachelor of Science in nursing course showed statistically significant increase in student grades in the experimental group. Predictability calculations also showed better achievement of learning outcomes if a blended learning with a flipped classroom design is continued to be used in the future⁹. Effect of Traditional Teaching Method with Multimedia Method in Learning the Lesson of Orthopedic Surgery Technique Students of Hamadan Medical Sciences Operating Room showed multimedia method is more effective than traditional method.¹⁰

Effect of traditional (lecture) versus non-traditional methods of teaching (role play, and case study) on the students' achievement and teaching effectiveness in Nursing Colleges at Jordanian Universities study concluded improving nursing student's achievements as well as teaching effectiveness require nursing educators to shift from teaching methods that promote passive

learning to those that encourage active learning and engage students in the educational process¹¹.

Material and Method

An experimental research approach and post-test only design with control group was undertaken among the Diploma and undergraduate nursing internship students at DVVPF’s College Of Nursing, Ahilyanagar. A total 126 nursing internship students selected by Randomized sampling technique who met the inclusion criteria (both GNM and B.Sc. Nursing students) were randomly assigned into two groups: experimental (n=63) and control (n=63).

The self-prepared and content validated structured questionnaire (for knowledge and practice) was used to gather data related to the study variables. It includes three sections such as 1. Section A – socio demographic data of the Nursing internship students Section B – Multiple choice questionnaire for knowledge (10 items) and practices (10 items) The correct response carries the score of one and wrong response carries zero score; Based on scores knowledge was categorized as poor, average and good; similarly the practice was categorized in to not adaptive, partially adoptive and completely adoptive practice. The reliability testing was done by

using test-retest method and the tool was found reliable (questionnaire $r=0.72$). Data was collected after implementation of 4 methods of teaching strategy.

- Method I: Lecture sessions (60 minutes, 2 sessions) for both groups.
- Method II: Demonstration (20 minutes, 6 sessions with 20 students each) for both groups.
- Method III: YouTube video on the mechanism of labour (7 minutes) for the experimental group.
- Method IV: Demonstration using the Mummy Nataly mannequin (1 hour) for the experimental group.

The collected data were compiled, tabulated and analysed based on objectives with help of descriptive (mean, SD and mean %) and inferential (chi square test) statistical methods.

Result

Demographics: Table no. 1 shows most participants were aged 20-23 years (experimental: 96.8%, control: 93.6%). The experimental group had 15 males and 48 females; the control group had 23 males and 40 females. A majority were living in hostel.

Table: 1: Demographic characteristics of participants in the study sample.

Item	Nursing Students characteristics			
	Experimental Group		Control Group	
Age in years	Frequency (63)	Percentage	Frequency(63)	Percentage
20-23	61	96.82%	59	93.65%
24-26	02	3.17%	04	6.34%
Gender				
Male	15	15 %	23	23%
Female	48	48%	40	40%
Course				
GNM	36	36%	35	35%

BSc	27	27%	28	28%
Residential Area				
Hostel	44	44%	37	37%
Home	19	19%	26	26%

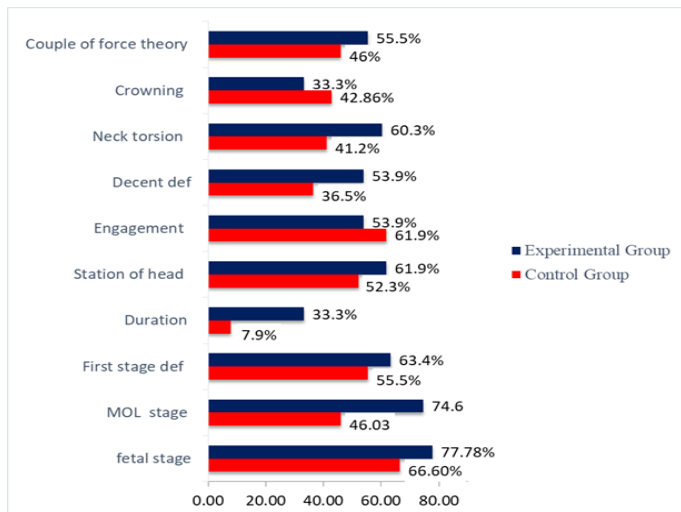


Figure 1: Bar diagram showing the effectiveness of Traditional teaching method VS Digital Teaching methods on knowledge regarding Mechanism of labour among nurse interns

The Fig. no. 1 shows that Digital teaching method was effective in improving the knowledge on various aspects of mechanism of labour. The range of effectiveness varied from 2% to 32% and the overall effectiveness was 26%.

Table 2: Effectiveness of traditional teaching method Vs Digital teaching method on knowledge, regarding mechanism of labour among nurse interns

Sn.	Group	Mean	SD	Unpaired t test	P value
1	Control	7.09	2.27	6.62*	0.00001
2	Experimental	4.57	1.99		

* Significant at the level of $p \leq 0.05$.

Table no. 2 shows effectiveness of traditional teaching method Vs Digital teaching method on knowledge regarding mechanism of labour among nurse interns. In control group, the mean score is 7.09 with a standard deviation of 2.27, while in experimental group the mean

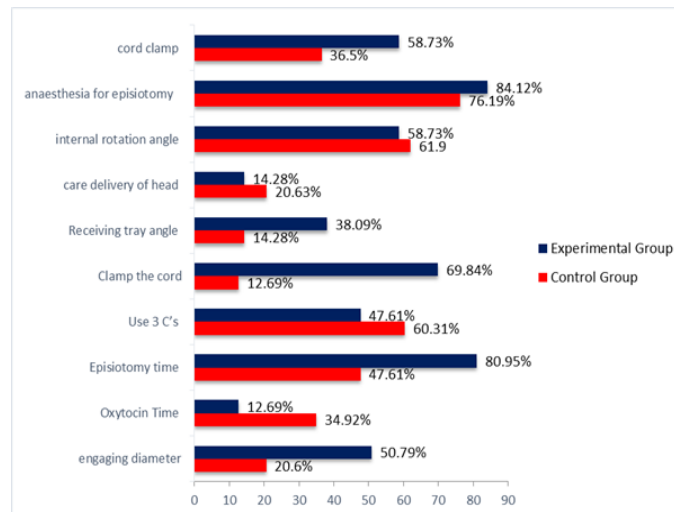


Figure 2: Bar diagram showing the effectiveness of Traditional teaching method VS Digital Teaching methods on practice regarding Mechanism of labour among nurse interns

Fig. no. 2 depicted diagram shows that Digital teaching method was effective in improving the practice skill on various aspects mechanism of labour. The range of effectiveness varied from 18% to 36% with overall effectiveness of 29%.

score is 4.57 with a standard deviation of 1.99. The calculated unpaired t-test value is 6.62, with p value of 0.00001. This indicates a highly significant difference between control and experimental group as evidenced by the unpaired t-test result (0.00001), which is less than the typical significance level of 0.05. Hence, null hypothesis

(H₀) is rejected and alternative hypothesis (H₁) is accepted.

Table 3: Effectiveness of traditional teaching method Vs Digital teaching method on practice regarding mechanism of labour among nurse interns

Sn.	Group	Mean	SD	Unpaired t test	P value
1	Control	7.34	2.2	9.17*	0.00001
2	Experimental	3.86	2.06		

* Significant at the level of $p \leq 0.05$.

Table no. 3 shows effectiveness of traditional teaching method Vs Digital teaching method on practice regarding mechanism of labour among nurse interns. In control group, the mean score is 7.34 with a standard deviation of 2.2, while in experimental group the mean score is 3.86 with a standard deviation of 2.06. The

calculated unpaired t-test value is 9.17, with p value of 0.00001. This indicates a highly significant difference between control and experimental group as evidenced by the unpaired t-test result (0.00001), which is less than the typical significance level of 0.05. Hence, null hypothesis (H₀) is rejected and alternative hypothesis (H₁) is accepted.

Table 4: To find out association between experimental group knowledge regarding mechanism of labour among nurse interns with their selected demographic variable.

Sn.	Socio demographic variables	Category	Experimental group Knowledge						Total	Chi square value	P value
			Poor		Average		Good				
			f	%	f	%	f	%			
1	Age	20-21	5	13.89	11	30.56	20	55.56	36	8.561	0.073
		22-23	1	4.55	3	13.64	18	81.82	22		
		24 -26	2	40	0	0	3	60	5		
2	Gender	Male	0	0	1	6.67	14	93.33	15	7.059	0.029
		Female	8	16.67	13	27.08	27	56.25	48		
3	Course	GNM	5	14.29	10	28.57	20	57.14	35	2.347	0.309
		BSc	3	10.71	4	14.29	21	75	28		
4	Residential area	Hostel	6	13.64	11	25	27	61.36	44	0.917	0.632
		Home	2	10.53	3	15.79	14	73.68	19		

* Significant at the level of $p \leq 0.05$.

Table No.4 Shows that association between experimental group knowledge regarding mechanism of labour among nurse interns with age & gender, the chi square p value found to be 0.073 & 0.029 is significant at the level of 0.05.

0.309, 0.632 and 0.538 respectively, it is not significant at the level of 0.05.

Association between experimental group knowledge regarding mechanism of labour among nurse interns with course, residential area the chi square p value found to be

Table 5: To find out association between experimental group knowledge on Practice regarding mechanism of labour among nurse interns with their selected demographic variable

Sn.	Socio Demographic variables	Category	Experimental group Practice						Total	Chi square value	p value
			Poor		Average		Good				
			f	%	f	%	f	%			
1	Age	20-21	5	13.89	5	13.89	26	72.22	36	4.751	0.314
		22-23	2	9.09	6	27.27	14	63.64	22		
		24 -26	2	40	1	20	2	40	5		
2	Gender	Male	1	6.67	3	20	11	73.33	15	0.941	0.625
		Female	8	16.67	9	18.75	31	64.58	48		
3	Course	GNM	7	20	7	20	21	60	35	2.363	0.307
		BSc	2	7.14	5	17.86	21	75	28		
4	Residential area	Hostel	6	13.64	8	18.18	30	68.18	44	0.151	0.927
		Home	3	15.79	4	21.05	12	63.16	19		

* Significant at the level of $p \leq 0.05$.

Table No 5 Shows that association between experimental group knowledge on practice regarding mechanism of labour among nurse interns with age, gender, course, residential area the chi square p value is found to be 0.073, 0.309, 0.632 and 0.538 respectively, which is not significant at the level of 0.05 Hence, failed to reject null hypothesis (H_0).

Table No. 6 Shows that association between control group knowledge score regarding mechanism of labour among nurse interns with age the chi square p value

Table 6: To find out association between control group knowledge regarding mechanism of labour among nurse interns with their selected demographic variable

Sn.	Socio Demographic variables	Category	Control group Knowledge						Total	Chi square value	p value
			Poor		Average		Good				
			f	%	F	%	f	%			
1	Age	20-21	7	20	17	48.57	11	31.43	35	9.638*	0.047
		22-23	13	50	10	38.46	3	11.54	26		
		24 -26	0	0	2	100	0	0	2		
2	Gender	Male	12	52.17	10	43.48	1	4.35	23	10.021*	0.007
		Female	8	20	19	47.5	13	32.5	40		

found to be 0.047, gender 0.007, and course 0.029 which is significant at the level of 0.05.

Association between control group knowledge score regarding mechanism of labour among nurse interns with residential area the chi square p value found to be 0.682 the chi square p value found to be constant respectively, it is not significant at the level of 0.05.

3	Course	GNM	8	22.22	16	44.44	12	33.33	36	7.113*	0.029
		BSc	12	44.44	13	48.15	2	7.41	27		
4	Residential area	Hostel	7	26.92	12	46.15	7	26.92	26	0.765	0.682
		Home	13	35.14	17	45.95	7	18.92	37		

* Significant at the level of $p \leq 0.05$.

Table 7: To find out association between control group practice score regarding mechanism of labour among nurse interns with their selected demographic variable.

Sn.	Socio Demographic variables	Category	Control group Practice						Total	Chi square value	p value
			Poor		Average		Good				
			f	%	f	%	f	%			
1	Age	20-21	16	45.71	17	48.57	2	5.71	35	4.08	0.395
		22-23	16	61.54	9	34.62	1	3.85	26		
		24 -26	0	0	2	100	0	0	2		
2	Gender	Male	20	86.96	2	8.7	1	4.35	23	19.756*	0
		Female	12	30	26	65	2	5	40		
3	Course	GNM	14	38.89	20	55.56	2	5.56	36	4.788	0.091
		BSc	18	66.67	8	29.63	1	3.7	27		
4	Residential area	Hostel	12	46.15	13	50	1	3.85	26	0.573	0.751
		Home	20	54.05	15	40.54	2	5.41	37		

* Significant at the level of $p \leq 0.05$.

Table No.7 Shows that association between control group practice score regarding mechanism of labour among nurse interns with gender, the chi square p value found to be 0 is significant at the level of 0.05.

Association between control group practice score regarding mechanism of labour among nurse interns with age, course, residential area, the chi square p value found to be 0.395, 0.091, 0.751 and constant respectively, which is not significant at the level of 0.05.

Discussion

The present study evaluated the impact of Digital teaching and traditional teaching method on learning of Mechanism of labour among nurse interns and students. The results show that there is a statistically significant difference between the digital teaching method and traditional teaching method, Rate of the Digital teaching

method is higher than the traditional method. In this regard, the results of study done by Lewis & Williams, 1994¹², which aimed to study the effect of digital teaching method on practical nursing principles and techniques on learning practical skills of nursing students, showed that using digital teaching method as an effective educational can be effective. Improve nursing students' knowledge & practical skills, which is in line with the results of this study. The multimedia method improves the average or better sustainability of students' knowledge, which is consistent with the results of the study done by Louhiala, 1996¹³ in another study by McHann & Frost 2010¹⁴. Results show that multimedia method is effective, and its application is recommended along with verbal method. A Study by (Behzad et al, 2019)¹⁰ with the aim of comparing the effect of triage training with lecture and multimedia software. In addition

to nurses' learning, the results indicate the effectiveness of both lecture and multimedia software, but considering the features of virtual teaching, this method is recommended McLeod, 2007¹⁵.

Therefore, the findings of this study, it can be stated that digital teaching method is more effective than the traditional one and leads to improvement in the student average which can be due to the benefits of digital method. Such as taking advantage of audio and video facilities, being available at any time and place, becoming more attractive and understanding the content to enable and engage students in learning and make the learning environment more realistic (Morreale & Pearson, 2000)¹⁶. Also, by reusing the curriculum due to its reproducibility, it can be more effective in deepening the understanding of scientific content and promoting knowledge in the sustainable learning of working students. Although, in this study, the effectiveness of digital teaching compared to traditional teaching in the field of mechanism of labour has been identified, the limitations of this study with a group of students as well as the use of an educational topic makes it possible to generalize the findings. Therefore, it is suggested that more studies be conducted in other disciplines and disciplines to ensure greater effectiveness of digital teaching.

Conclusion

The study concludes that digital teaching method was better than traditional teaching method. The nature of teaching and learning by incorporating new technology will redefine and oppose the superficial teaching, where facts are memorized and regulated to pass the test. Professional nurses, educators and clinicians need to integrate and adopt blended learning as a learning strategy. Digital teaching method supports deeper and self-directed learning.

References

1. Ni AY. Comparing the effectiveness of classroom and online learning: Teaching research methods. *J Public Aff Educ* 2013;19:199-215.
2. Pahinis K, Stokes CW, Walsh TF, Cannavina G. Evaluating a blended-learning course taught to different groups of learners in a dental school. *J Dent Educ* 2007;71:269-78.
3. Potomkova J, Mihal V, Cihalik C. Web-based instruction and its impact on the learning activity of medical students: A review. *Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub* 2006;150:357-61.
4. Grimes EB. Student perceptions of an online dental terminology course. *J Dent Educ* 2002;66:100-7.
5. Karamizadeh Z, Zarifsanayei N, Faghihi AA, Mohammadi H, Habibi M. The study of effectiveness of blended learning approach for medical training courses. *Iran Red Crescent Med J* 2012;14:41-4.
6. Parsad B, Lewis L. Distance Education at Degree Granting Post Secondary Institutions: 2006-2007. Washington DC: National Center for Educational Statistics, Institute of Education Sciences, U.S Department of Education; 2008.
7. Fatma Mahrous. Effect of Traditional versus E-learning on nursing Students' Academic Achievement. *Egyptian Journal of Health Care*, 2015 EJHC Vol.6No.3
8. Ahmad A. AlKhaibary, Faten Z. Ramadan, Ahmad E. Aboshaiqah, Omar G. Baker, Salwa Z. AlZaatari, and Salim Z. AlZaatari. Determining the effects of traditional learning approach and interactive learning activities on personal and professional factors among Saudi intern nurses. *National library of medicine*. 2021 Jan; 8(1): 327-332. Published online 2020 Sep 30. doi: 10.1002/nop2.633

9. Suhaila Halasa, Nimer Abusalim, Mohammad Rayyan, Rose E. Constantino, Omayah Nassar, Huda Amre, Moayad Sharab, Insirah Qadri.. Comparing student achievement in traditional learning with a combination of blended and flipped learning .Wiley online library. Volume7, Issue4, July 2020, Pages 1129-1138. <https://doi.org/10.1002/nop2.492>
10. Behzad Imani, Fatemeh Aghamohammadi, Majid Ansari, Zahra Azizi. Lupin online journal of nursing and health care. A Comparative Study on the Effect of Traditional Teaching Method with Multimedia Method in Learning the Lesson of Orthopedic Surgery Technique Students of Hamadan Medical Sciences Operating Room Volume 2 - Issue 3. Received: October 12, 2019; Published: October 18, 2019. <http://dx.doi.org/10.32474/LOJNHC.2018.02.000136>
11. Mohammed Abu Hasheesh, Omar Al-Mostafa & Hala Obeidat. An - Najah Univ. J. Res. (Humanities). Traditional Versus Nontraditional Methods of Teaching: the Impact on Nursing Teaching Effectiveness and Student's Achievements at Nursing Colleges. Vol. 25(1), 2011
12. Lewis, L. H., & Williams, C. J. (1994). Experiential learning: A new approach. *New Directions for Adult and Continuing Education*, 62, 5-16.
13. Louhiala-Salminen, L. (1996). The business communication classroom vs reality: What should we teach today? *English for Specific Purposes*, 15(1), 37-51.
14. McHann, J. C., & Frost, L. A. (2010). Integrating experiential learning into business courses: Using learning journals to create living case Studies. *American Journal of Business Education*, 3(8), 1-12.
15. McLeod, S. (2007). Experimental design. *Simply psychology*. Retrieved from <https://www.simplypsychology.org/experimental-designs.html>.
16. Morreale, S., Osborn, M. M., & Pearson, J. C. (2000). Why communication is important: A rationale for the centrality of the study of communication. *Journal of the Association for Communication Administration*, 29, 1-25.