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DEVELOPMENT AND EFFECTIVENESS OF MOBILE LEARNING APPLICATION SOFTWARE TO ENHANCE B. ED. STUDENTS LEARNING

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Abstract

The present study is to develop and asses the effectiveness of mobile learning application software to enhance B Ed. students learning with respect to two parameters i.e Active Participation and Social Interaction. A sample of 80 B. Ed college students belonging from Sir J. P. College of Education and Research, Palghar was taken. The experimental research methodology were adapted to check the effectiveness with one sample pre test-post test design. Data were collected with researcher made tool for pre test and post test and were analyzed using t-test. Result revealed that there no statistical significant difference in pre test and post test scores of Active Participation and Social Interaction to enhance B. Ed students learning for the two years credit based choice system. The study also revealed that though the statistical difference was not there but student found JYOTI app very informative, helpful, social friendly and interactive through reaction analysis of open ended questionnaire.

Keywords: *Development, Effectiveness, Mobile Learning Application Software, Active Participation, Social Interaction, B. Ed College Students.*

1.1 INTRODUCTION:

In modern era, knowledge expansion is quickly changing due to the rapid development of mobile devices. In particular, the advancement of mobile devices such as Smartphone, Smart Pad and others have increased use of them and accordingly, numerous apps in various fields are in use. Among these apps, apps for educational use are in the development stage and can be regarded as one field of infrastructure construction for the enhancement of educational quality. The use of digital technologies in higher education attracted great interest in recent years, It is a common expectation for academic staff and the administrator to investigate options to ensure the learning environment is modern, relevant capable of producing graduates with the attributes aligned with the work environment and their career expectation. Mobile-learning (m-learning) has been claimed as the future of learning. Applications (apps) are fundamental features of mobile devices and the volume and the complexity of apps continues to increase.

1.2 REVIEW OF RELATED LITERATURE:

Muhammed S. & Kert S. B. (2020), conducted study on **"Use of Mobile Application in Collocation Teaching."** This paper described the vocabulary importance in language learning. It was found that post-test and retention test scores of the students who use a mobile application and their collective words have increased significantly according to the pre-test scores of the students learning in the classroom.

Klimova B. (2019) studied, **"Impact of Mobile Learning on students' Achievement Results."** The purpose of this pilot study is to illustrate that foreign language learning supported by a personalized smartphone app can be effective in the enhancement of university students' performance by implementing smartphone app learning in a continuous assessment. The results reveal that foreign language learning, particularly studying and revising English vocabulary and phrases via smartphones is effective in the enhancement of university students' performance.

Rastogi H. (2019), studied **"Digitalization of Education in India – An analysis."** This conceptual paper focusses on prominently used learning application in India such as google classroom, Kahoot, EPathshala, Cuemath, Khan Academy, BYJU's, Seesaw & Toppr etc. The results of this paper shows that digitalization of education is the need of the hour to stand in international education system. But policy makers needs to create a system which is a combination of traditional as well as modern measures of teaching which can promote teacher-student relationship.

Hirsh-Pasek et al (2015) conducted a study on, **"Putting Education in "Educational" Apps: Lessons from the Science of Learning"** Study reveals that apps designed to promote active, engaged, meaningful, and socially interactive learning—four "pillars" of learning—within the context of a supported learning goal are considered educational.

Nath H. & Das S. (2020), conducted study on "**Mobile Learning during Covid -19 Pandemic: A Critical Survey on Student's Experience In Assam"**. This paper discussed that mobile learning plays important role in online classes, submission of assignments, for test etc. The results indicated that mobile learning has become evolving method of teaching and learning. Most of educational institution accepted various online ways to facilitate learning experience to students.

1.3 AIMS OF THE STUDY

1. To develop a mobile learning application software to enhance B. Ed. students learning.
2. To study the effectiveness of mobile learning application software to enhance B. Ed. students learning.

1.4 OBJECTIVES OF THE STUDY

1. To study the curriculum of two years credit based choice system for the B.Ed.students.
2. To study the project based course of the B. Ed curriculum based on two years choice based
   credit system.
3. To develop mobile learning application software for the project based course to enhance B. Ed students learning for the two years credit based choice system.
4. To implement the mobile learning application software for the project based course to enhance B. Ed students learning for the two years credit based choice system.
5. To study the pre-test and post test scores of active participation to enhance B. Ed students
   Learning for the two years credit based choice system.
6. To study the pre-test and post test scores of social interaction to enhance B. Ed students
   learning for the two years credit based choice system.
7. To compare the pre-test and post test scores of active participation to enhance B. Ed students learning for the two years credit based choice system.

8. To compare the pre-test and post test scores of social interaction to enhance B. Ed students
   learning for the two years credit based choice system.

1.5 HYPOTHESIS OF THE STUDY

1. There is no significant difference in the pre-test and post test scores of the project based
   course for active participation to enhance B. Ed students learning for the two credit based choice system.
2. There is no significant difference in the pre-test and post test scores of the project based
   course for social interaction to enhance B. Ed students learning for the two years credit based choice system.

1.6 DELIMITATIONS OF THE STUDY

1. The present study was delimited to all project based courses of B. Ed curriculum based on two years credit based choice system only.
2. The present study was delimited to check with following variables only.
   i) Active participation
   ii) Social interaction
3. The present study was delimited to English medium B. Ed. students only.

2. RESERCH METHODOLOGY

2.1 Research design

The present study was conducted by employing experimental method of research involving one group pre-test post-test research design.

2.2 Sample

B. Ed. Students from teacher training college for sample was selected through **convenient sampling.** In the present study, the sample consisted of 80 student teachers from Sir J. P. College of Education and Reseach, Palghar B. Ed. batch.

2.3 Tools used

For the purpose of the research, the researcher used two tools to collect information from B. Ed. Students of Mumbai University. These include researcher made tools.

1) Pre Test-Post Test Questionnaire
2) Mobile learning application software developed on the basis of project based course of credit based choice system curriculum for B. Ed. Students.

Pre Test-Post Test Questionnaire consisted 2 tool based on

i) Active participation

ii) Social interaction

2.4 Validity of tool

For the purpose of checking validity of the tool, Content validity was done from six experts.

2.5 Reliability of Tool

Reliability of tool based on pilot study data was calculated using SPSS. Reliability with Cronbach alpha, Split half reliability technique and Correlation was calculated using SPSS. Reliability of tool is as follows:

Table 1 :Reliability of the tool

Sr. No.	Name of Tool	Cronbach alpha	Split half	Correlation
01	Active Participation	0.892	0.865	0.762
02	Social Interaction	0.896	0.909	0.846

2.6 Procedure

For the present study the researcher employed the following procedure which comprised of the following steps.

1. Researcher took permission from B. Ed College principal to collect the data from respective B. Ed college students.
2. The researcher studied the project based course of B. Ed curriculum based on two years credit based choice system.
3. The researcher prepared the mobile learning application software for student-teacher by catering to their needs in teaching learning process of project based course of B. Ed. curriculum based on two years credit based choice system.
4. A group of 80 students from first year B. Ed was selected for the study of pre-test.
5. Before the implementation, researcher conducted pre-test on group at the once the first year was ended.

6. Mobile learning application software was made available on Play Store and links was forwarded to experimental group on their mobile number.
7. Implementation of the mobile learning application software was conducted for the enhancement of project based course of second year in teaching learning process in two phases, once at the time of semester III project based course and second time was at the time of semester IV project based course.
8. The post test was conducted on same group at the completion of second year project based course and with the help of quantitative data effectiveness was checked.
9. Data was collected by the administration of the tool and followed by analysis and interpretation using appropriate statistical technique.
10. Reaction analysis was conducted with open ended questionnaire to confirm the efficiency of the mobile learning application software after data analysis.

3. RESULTS

Table 2 : Difference in mean scores of Pre test and Post test

Hypothesis	Variable		Mean	Standard Deviation	't' value	Level of significance	N
1	Active Participation	Pre test	93.062	7.436	0.288	Non significant	80
		Post test	94.637	10.395			
2	Social Interaction	Pre test	56.437	4.714	0.215	Non significant	80
		Post test	55.425	5.52			

ANALYSIS OF OPEN ENDEND TOOL (REACTION ANALYSIS)

After inferential analysis, researcher conducted an open ended questionnaire after the post test & data analysis to check the opinion of the student for the efficiency of JYOTI App in B. Ed. teaching learning process. Open ended questionnaire with 5 questions were asked using google form. Data were collected using online mode due to pandemic.

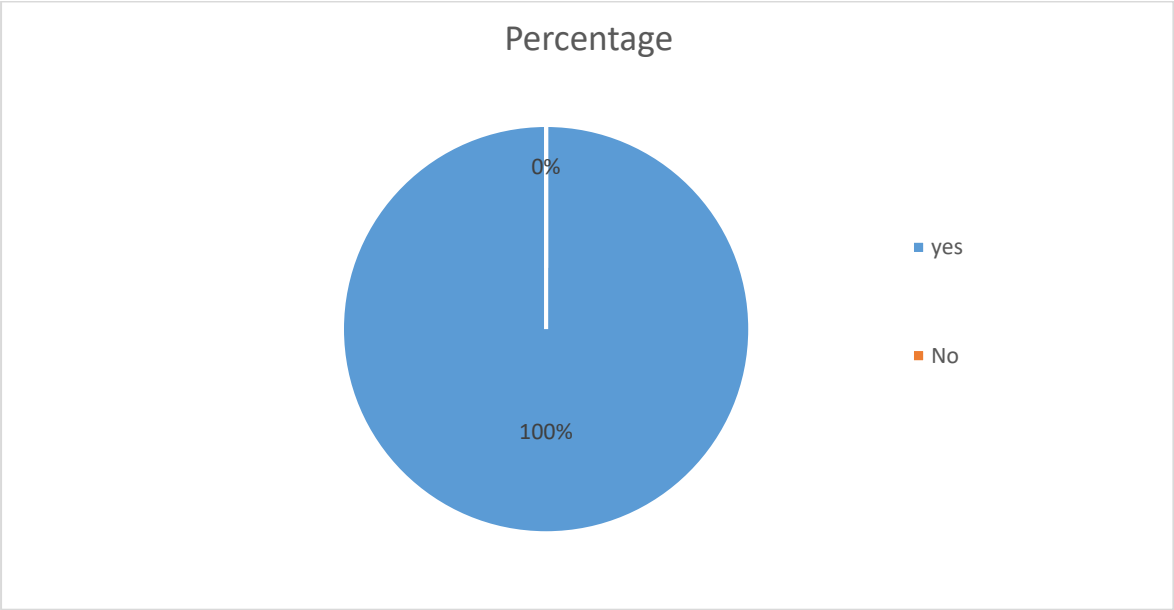
Following is the analysis of the reaction of the B. Ed students.

1) Was JYOTI App helpful in learning project based courses/internship activities?

Table 3 :Response distribution for helpfulness of JYOTI App in learning project based courses/internship activities

Response	Yes	No	Total
No. of responses	65	0	65
Percentage	100%	0%	100

Graph 1 :Response distribution for helpfulness of JYOTI App in learning project based courses/internship activities in percentage

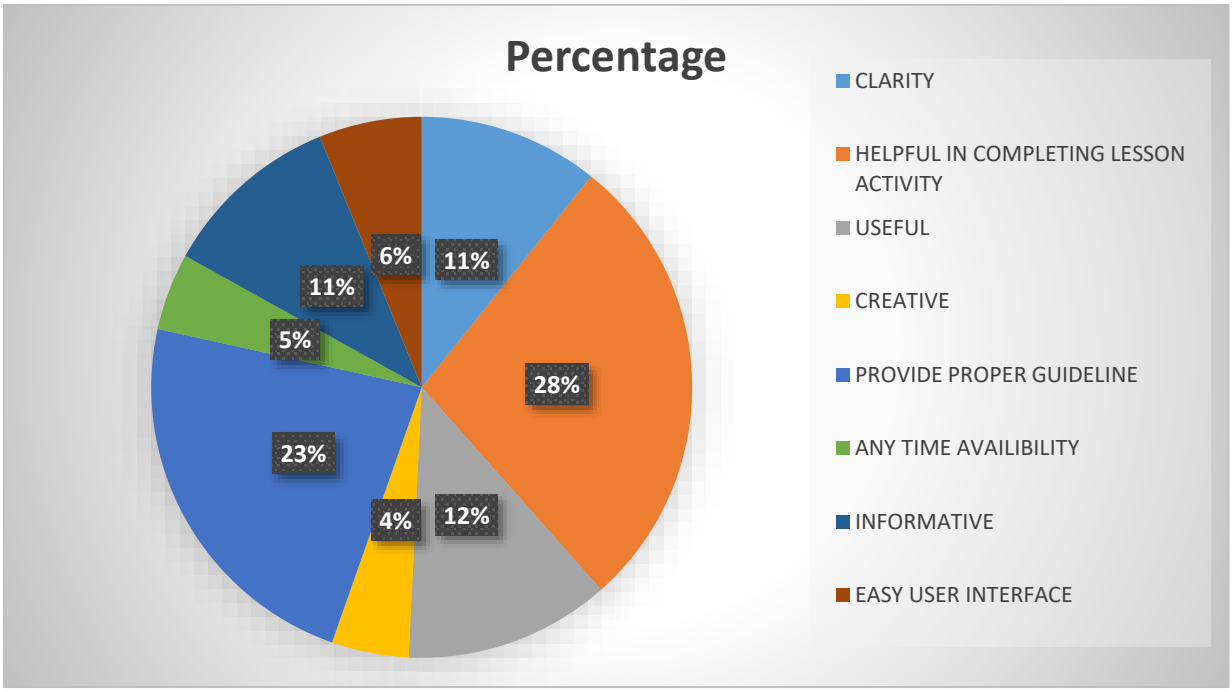


2) How did JYOTI App help you to participate actively in internship activity?

Table 4: Response distribution for helpfulness of JYOTI App for students to participate actively in internship activity

	Clarity	Helpful in completing lesson activity	Useful	Creative	Provide proper Guideline	Any time	Informative	Easy user interface	Total
No. of response	7	18	8	3	15	3	7	4	65
Percentage	11%	28%	12%	5%	23%	5%	11%	6%	100 %

Graph 2 :Response distribution for helpfulness of JYOTI App for students to participate actively in internship activity in percentage

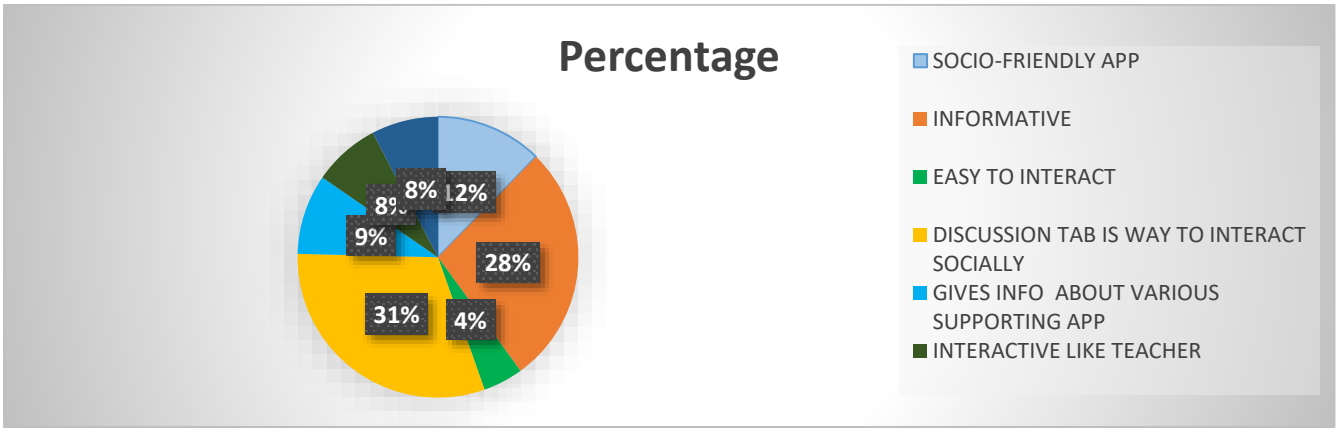


3) How did JYOTI App help you to enhance social interaction while doing project based course activities?

Table 5 :Response distribution for the way JYOTI App help students to enhance social interaction while doing project based course activities

	Socio-friendly App	Informative	Easy to interact	Discussion tab is way to interact socially	Gives info about various supporting app	Interactive like teacher	Helps in communication & teaching Skills	Total
No. of response	8	18	3	20	6	5	5	65
Percentage	12%	28%	5%	31%	9%	8%	8%	100 %

Graph 3 :Response distribution for the way JYOTI App help students to enhance social interaction while doing project based course activities in percentage

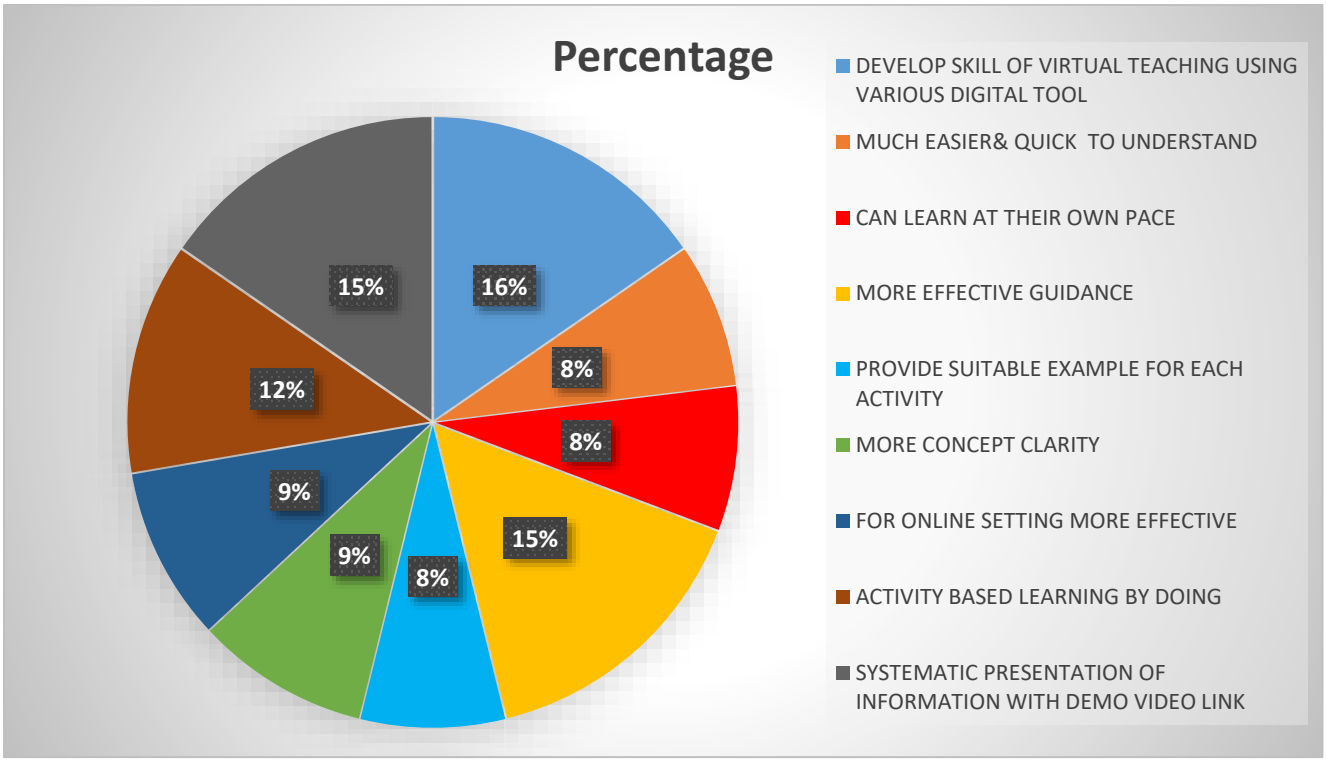


4) How did JYOTI App help you in your internship activities than normal teaching?

Table 6 :Response distribution for the extent of JYOTI App helped students in internship activities than normal teaching

	Develop skill of virtual teaching using various digital tool	Much easier & quick to understand	Can learn at their own pace	More effective guidance	Provide suitable example for each activity	More concept clarity	For online setting more effective	Activity based learning by doing	Systematic presentation of information with demo video link	Total
No. of response	10	5	5	10	5	6	6	8	10	65
Percentage	15%	8%	8%	15%	8%	9%	9%	12%	15%	100 %

Graph 4 :Response distribution for the extent of JYOTI App helped students in internship activities than normal teaching in percentage

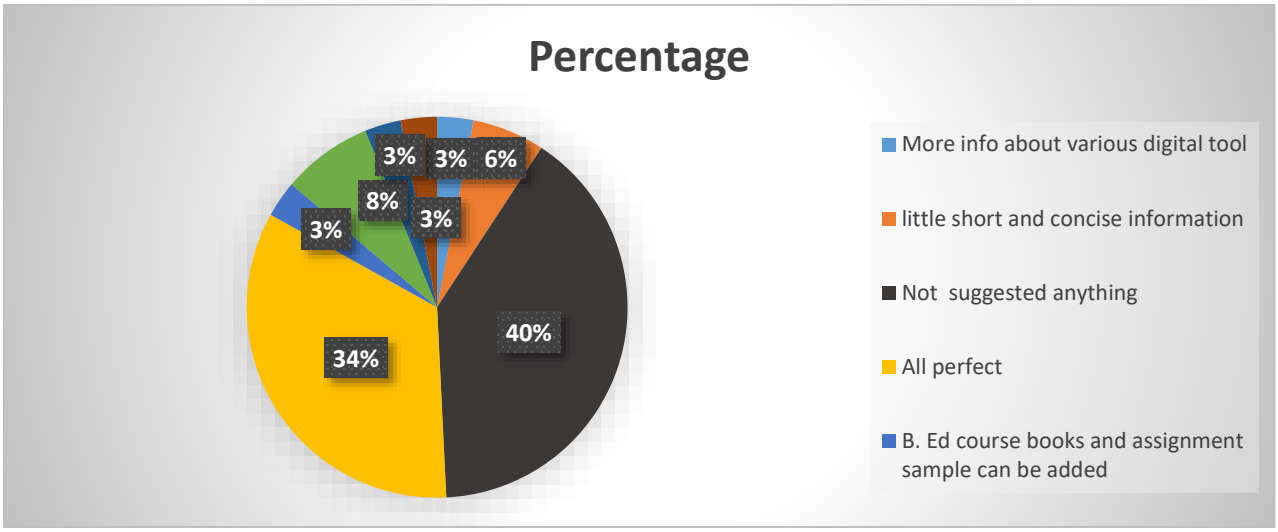


5) Please suggest the areas of improvement in JYOTI App.

Table 7 :Response distribution for suggestion of the areas of improvement in JYOTI App

	More info about various digital tool	Little short and concise information	Not suggested anything	All perfect	B. Ed course books and assignment sample can be added	More pictures, videos & reference	More technical aspect can be introduced	More data security required like water mark	Total
No. of response	2	4	26	22	2	5	2	2	65
Percentage	3%	6%	40%	34%	3%	8%	3%	3%	100 %

Graph 5 :Response distribution for suggestion of the areas of improvement in JYOTI App in percentage



4. CONCLUSION AND DISCUSSION

Conclusion for hypothesis 1. There is no significant difference in the pre-test and post test scores of the project based course for active participation to enhance B. Ed students learning for the two years credit based choice system.

Discussion: The project based courses of B. Ed are having the activities which gives good scope for activities. The no difference in pre test and post test implies that JYOTI mobile app had given equal opportunities for active participation while performing second year project based activities. Psychological personality like introvertness or extrovertness of B. Ed students also play key role in willingly participation or forced participation. According to student's personality result may differ.

Conclusion for hypothesis 2. There is no significant difference in the pre-test and post test scores of the project based course for social interaction to enhance B. Ed students learning for the two years credit based choice system.

Discussion: The project based courses of B. Ed are having the activities which gives ample opportunity for interacting socially with individuals. No difference in pre test and post test implies that JYOTI mobile app has features with which students interacted socially on online platform while conducting all second year project based activities. Psychological qualities of students may intervene and influence the result.

Conclusion for reaction analysis:

1. All the respondents finds that JYOTI App was helpful in learning project based courses/internship activities.

2. Jyoti App found very helpful for to participate actively in internship activity by completing lesson activity and by providing guidelines with clarity of concepts, anytime in useful, informative, creatively, user friendly manner.
3. JYOTI App helps B. Ed students to enhance social interaction while doing project based course activities with the help of 'Discussion' tab with appropriate information about various supporting learning apps in easy manner of interaction similarly like a teacher. B. Ed students found JYOTI app as a social friendly app.
4. Than normal teaching, JYOTI App helps B. Ed. students in internship activities by helping to develop skills of virtual teaching using various digital tools with systematic presentation of information along with suitable example for each activity gives effective guidance. It helps student learning by doing with an activity in online settings as per student's own pace effectively.
5. Most of students found Jyoti app all perfect for learning project based course activities and hence most of student did not suggest anything.

Discussion:

All the respondents finds that JYOTI App was helpful in learning project based courses/ internship activities.

Overall Discussion:

As study was limited to project based courses of B. Ed syllabus, which consist many activities which gives opportunities and demands aspects like active participation, social interaction. The efficiency of Jyoti mobile application was assessed on the same parameter wherein it was observed that there is no statistical difference in learning project based courses of first year with B. Ed syllabus and learning project based courses of second year with Jyoti mobile application. This indicates that learning project based courses with B. Ed syllabus involves the teacher educator for teaching the concept of project based courses time to time. Self-learning of project based courses with Jyoti mobile application has no statistical difference with teacher teaching. But according to analysis of reaction of B. Ed students over JYOTI app, it was found that JYOTI app is helpful in enhancing active participation and social interaction. It also revealed that JYOTI app is helpful for than normal teaching and it is a perfect app for learning project based course.

5. SUGGESSTIONS

Suggestions to improve efficiency of Jyoti Mobile learning Application Software:

More research need to do about what student teachers love to learn in two year B. Ed course. According to data, new content can be added which can cover all practical as well as theory based aspects too.

Focus on delivering content in more easily and attractive manner like slide show or template form, Gist of topic in pictorial format, may encourage user to use app frequently. More interactive, self-assessment and challenging evaluation techniques can be incorporated for learner which engages them more.

Immediate virtual feedback feature can be introduced which motivates to involve more in task completion with enthusiasm.

6. REFERENCES

Davis, M. (2020). Validation of the educational effectiveness of a mobile learning app to improve knowledge about MR image quality optimization and artefact reduction. *Insights into Imaging*, *9*:721–730.

Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis, *Journal of Educational Technology Systems, 0(*0):1-18.

Gregory, S. & et al (2019). A Phenomenographic Research Study of Students' Conceptions of Mobile Learning: An Example From Higher Education, *SAGE Open*: 1-17. https://doi.org/10.1177/2158244019861457

Hirsh-Pasek et al (2015). Putting Education in "Educational" Apps:Lessons from the Science of Learning. *Psychological Science in the Public Interest, 16*(1):3– 34.

Jha, G. K. & et al (2021). Student's Perception and Preference for Online Education in India during COVID-19 pandemic. *Social Sciences & Humanities Open, 3(3).*

Latifa, I. S. (2018). Analysis of Teacher's Lesson Plan through Behaviroral Objectives Theory." *Advances in Social Science, Education and Humanities Research, 82:* 6-11.https://doi.org/10.5281/zenodo.569363

Klimova, B. (2019). Impact of Mobile Learning on Students' Achievement Results. *Education Sciences,9* (90):1-8.

Muhammed, S. & Kert, S. B. (2020). Use of Mobile Application in Collocation Teaching. *Cypriot Journal of Educational Sciences*, *15*(5):1176-1190.

Nath, H. & Das, S. (2020). Mobile Learning During Covid -19 Pandemic: A Critical Survey On Student's Experience In Assam. *Journal of Critical Reviews*, *7*(6)