CHAPTER 4
FINDINGS AND DISCUSSION

The present study was undertaken to study the readiness of the selected teacher of the Maharaja Sayajirao University of Baroda, Vadodara, regarding usage and development of e-content for Teaching. This chapter presents the findings based on the data collected by the Researcher. The findings are reported under the following Sections.

4.1 BACKGROUND INFORMATION OF THE TEACHERS

Table 26: Percentage Distribution of the Teachers according to their Background information

(n=300)

Background information	Category	Percentage (%)
Age	Young	55.0
	Old	45.0
Status of Job	Permanent	41.3
	Temporary	58.7
Area of Specialization	Science & Technology	33.7
	Humanities	36.0
	Social science	30.3
Teaching Experience	Less Experience	59.0
	More Experience	41.0

The above Table shows that little more than fifty percent (55%) of the teachers were young whereas a little less than fifty percent of the teachers (45%) were old in age. A little more than forty percent i.e. (41.3%) of the teachers had a permanent job whereas a little less than sixty percent i.e. (58.7%) of the teachers had a temporary job. Almost Forty percent i.e. (36.0%) of the teachers were from the discipline of Humanities whereas (33.7%) of the teachers were from the discipline of science and technology and (30.3%) teachers were from the discipline of Social Science. A little less than sixty percent i.e. (59%) of the teachers were having less teaching experience whereas a little more than forty percent i.e. (41%) were had more experience in teaching.

Figure 1: Percentage Distribution of selected Teachers according to their Age

(n=300)

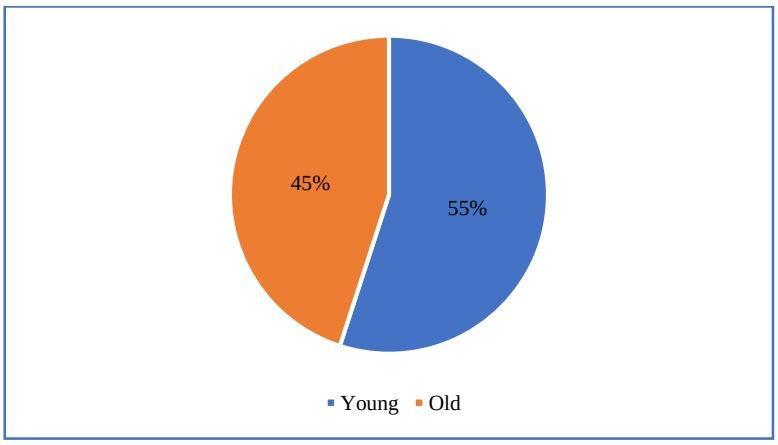


Figure 2: Percentage Distribution of selected Teachers according to their Status of Job

(n=300)

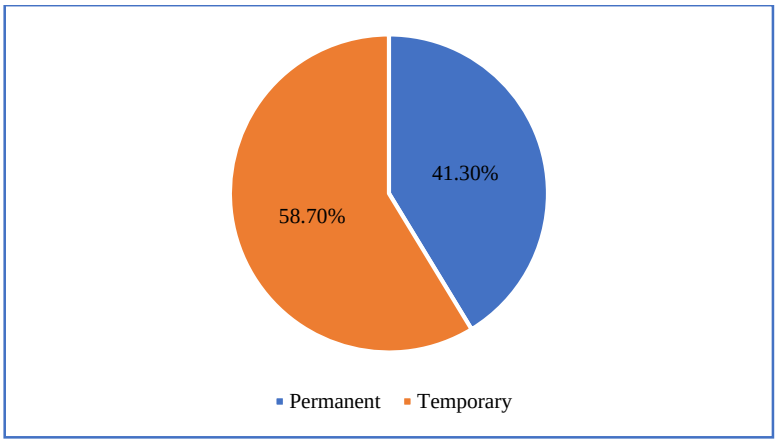


Figure 3: Percentage Distribution of selected Teachers according to their Area of Specialization

(n=300)

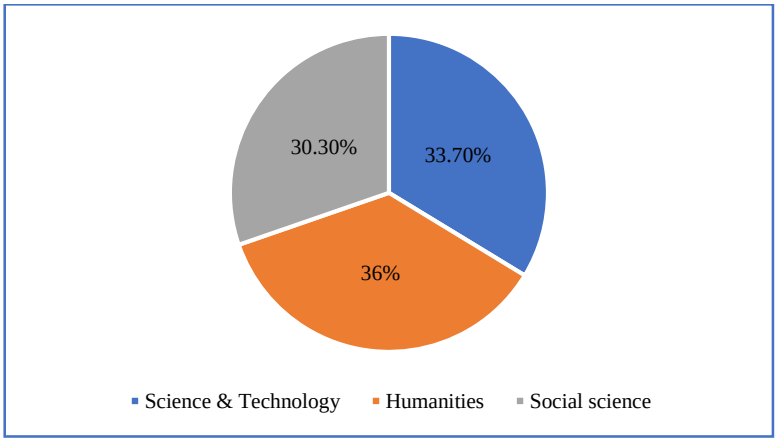
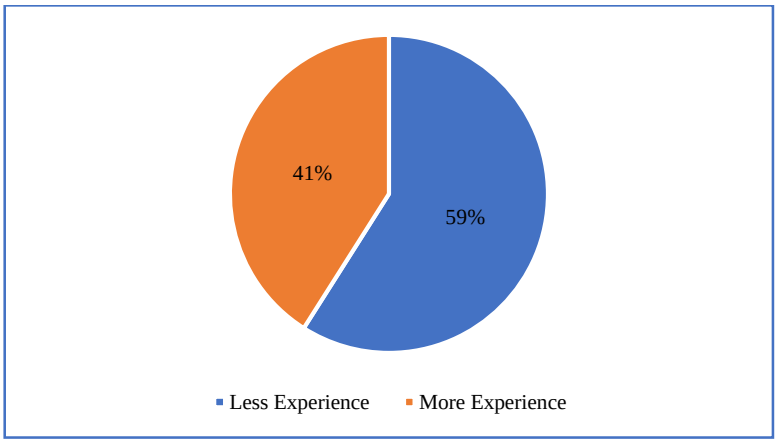


Figure 4: Percentage Distribution of selected Teachers according to their Teaching Experience

(n=300)



4.2 COMPUTER AND INTERNET USAGE OF THE TEACHERS

Table 27: Percentage Distribution of the teachers according to their Computer and Internet Usage

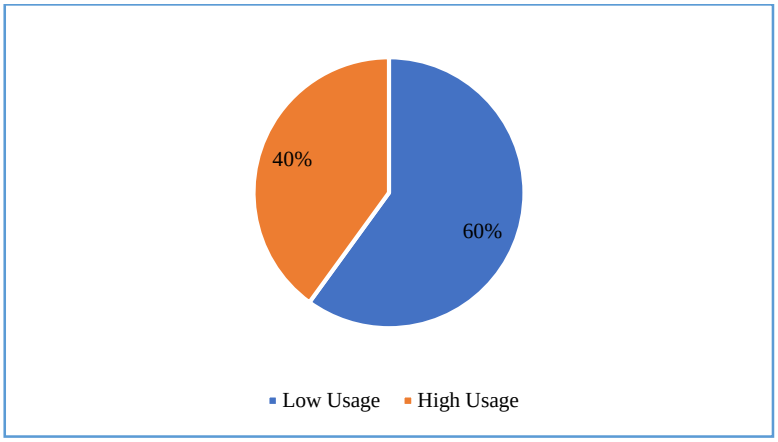
(n=300)

Variable	Category	Percentage (%)
Computer & internet usage	Low Usage	60.0
	High Usage	40.0

The above table reveals that a majority of the respondents i.e. (60%) had a low computer and internet usage whereas (40 %) of the respondents had a high computer and internet usage.

Figure 5: Percentage Distribution of selected Teachers according to their Computer and Internet Usage

(n=300)



4.3 COMPUTER AND INTERNET-RELATED TECHNICAL COMPETENCIES

Table 28: Percentage Distribution of the Teachers according to their Computer and Internet-related Technical competencies

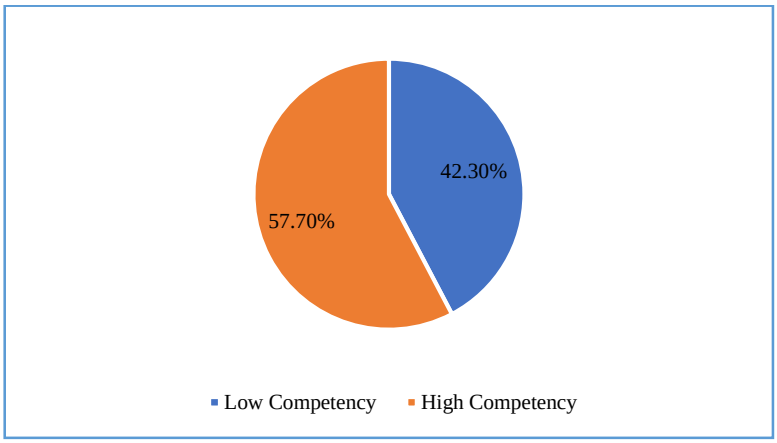
(n=300)

Variables	Category	Percentage (%)
Computer and internet related Technical Competencies	Low Competency	42.3
	High Competency	57.7

The above table reveals that little less than sixty percent of the selected teachers i.e. (57.7%) had high technical competency in relation to Computer and Internet whereas a little more than forty percent i.e. (42.3%) of the selected teachers had low technical competency in relation with Computer and Internet.

Figure 6: Percentage Distribution of selected Teachers according to their Computer and Internet-related Competencies

(n=300)



4.4 PERCEPTION OF THE TEACHERS TOWARDS TECHNOLOGY

Table 29: Percentage Distribution of the Teachers according to their Perceptions towards Technology

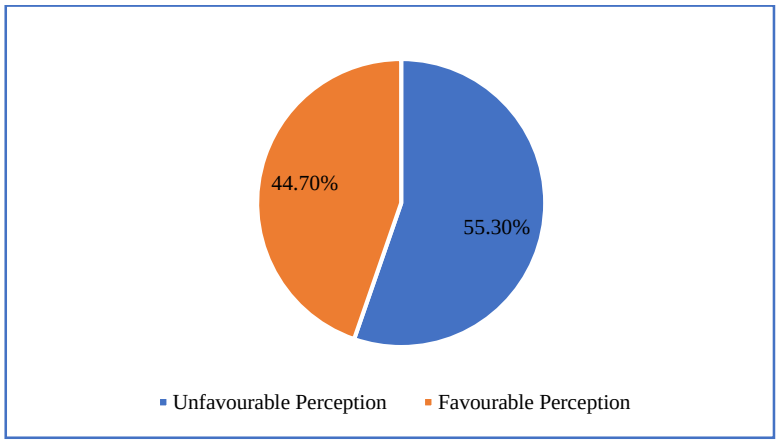
(n=300)

Variables	Category	Percentage (%)
Perception towards Technology	Unfavourable Perception	55.3
	Favourable Perception	44.7

The above table revealed that more than fifty i.e. (55.3%) of the selected teachers had unfavorable perceptions towards technology whereas little more than forty percent i.e. (44.7%) of the teachers had favorable perceptions towards technology.

Figure 7: Percentage Distribution of selected Teachers according to their Perceptions towards technology

(n=300)



4.5 KNOWLEDGE OF THE TEACHERS REGARDING E-CONTENT

Table 30: Percentage distribution of the teachers according to their knowledge regarding e-content

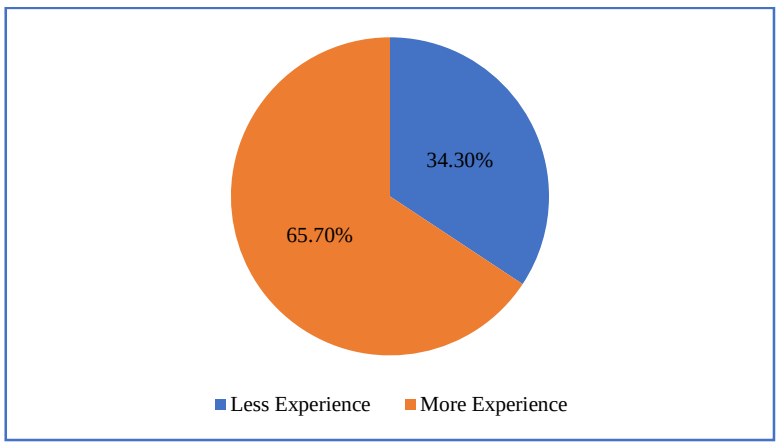
(n=300)

Variables	Category	Percentage (%)
Knowledge regarding e-content	Low Knowledge	34.3
	High Knowledge	65.7

The above table revealed that a majority of the selected teachers i.e. (65.7%) had high knowledge regarding e-content whereas a little more than thirty percent i.e. (34.3%) of the selected teachers had low knowledge regarding e-content.

Figure 8: Percentage Distribution of selected Teachers according to their Knowledge regarding e-content

(n=300)



4.6 INTEREST OF THE TEACHERS IN E-CONTENT FOR TEACHING

Table 31: Percentage distribution of the Teachers according to their interest in e-content for teaching

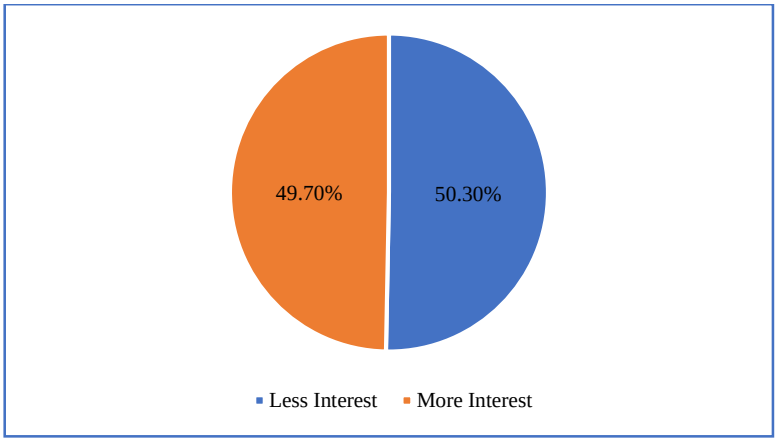
(n=300)

Variables	Category	Percentage (%)
Interest in e-content for teaching	Less Interest	50.3
	More Interest	49.7

The above table reveals that (49.7%) of the teachers had more interest in e-content for teaching whereas (50.3%) of the teachers had less interest in e-content for teaching.

Figure 9: Percentage Distribution of selected Teachers according to their Interest in e-content for teaching

(n=300)



4.7 OTHER BACKGROUND INFORMATION OF THE TEACHERS

Table 32: Percentage Distribution of Teachers according to their Other Background information

(n=300)

Variables	Category	Percentage (%)
Designation	Professor / Associate professor	5.3
	Assistant professor	44.7
	Temporary Assistant Professor / TemporaryTeaching Assistant	50.0
Gender	Female	53.7
	Male	46.3
Educational qualification	Post-Graduation	58.0
	M.Phil.	2.3
	Ph.D.	38.0
	Any Other	17
ICT Use	Computer	87.2
	Printer	81.4
	LCD Projector	89.9
	Internet / Wi-Fi connections	85.1
	Mobile	81.8
	Video-audio sharing through applications	34.5
	Video conferencing	8.4
	Interactive boards	10.5

The above table reveals that half of the selected teachers were either Temporary Teaching Assistants or Temporary Assistant Professors whereas less than half of the teachers i.e. (44.7%) were assistant professors and a very less percent of the teachers was either Professors or Associate Professors. A little more than half of the teachers i.e. (53.7%) were females whereas a little less than fifty percent i.e. (46.3%) of the selected teachers were males. A majority of the selected teachers i.e. (58%) were Postgraduates whereas a little less than forty percent i.e. (38%) of the selected teachers were having a Ph.D. The teachers when inquired about their usage of ICT use, it was revealed that a very high majority of the teachers were using Computers (87.2%), Printer (81.4%), LCD Projector (89.9%), Internet/ Wi-Fi connection (85.1%) and Mobile (81.8%) whereas a very less percent of the teachers was using Video Conferencing (8.4%) and Interactive boards (10.5%).

Figure 10: Percentage Distribution of selected Teachers according to their Designation

(n=300)

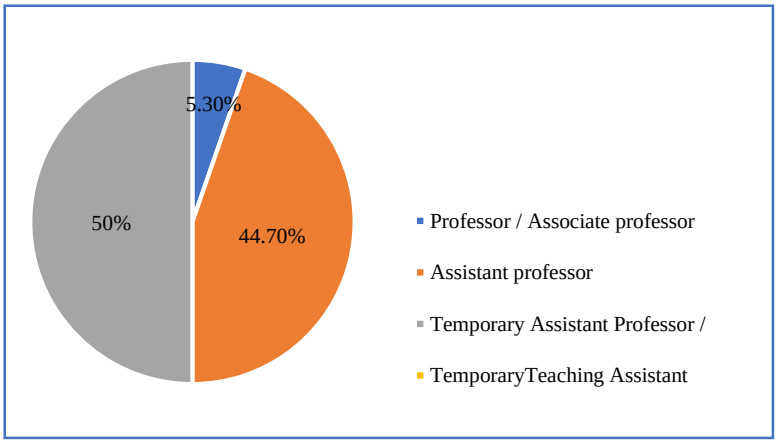


Figure 11: Percentage Distribution of selected Teachers according to their Gender

(n=300)

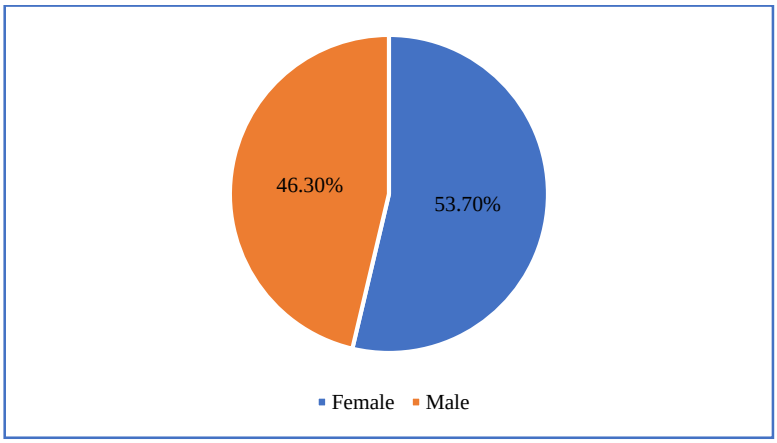
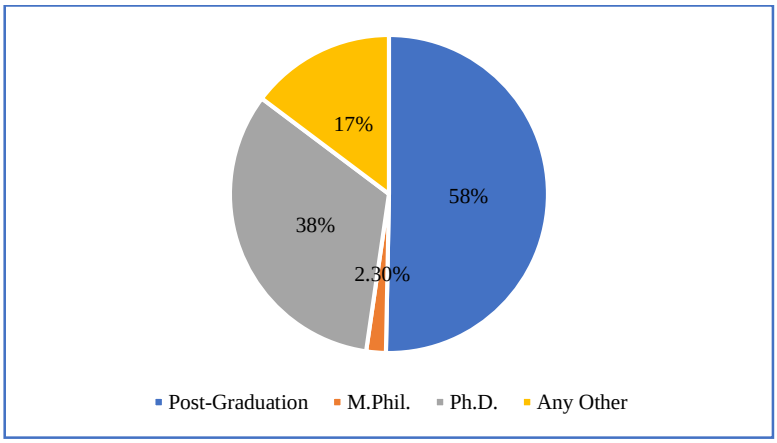


Figure 12: Percentage Distribution of selected Teachers according to their Educational Qualification

(n=300)



4.8 READINESS OF THE SELECTED TEACHERS REGARDING THE USAGE OF E-CONTENT FOR TEACHING

4.8.1 *Overall Readiness of the teachers regarding the usage of e-content for teaching*

Table 33: Percentage Distribution of the selected teachers according to their overall readiness regarding their usage of e-content for teaching

(n=300)

Teachers' Level of readiness	Percentage (%)
Less Readiness	52.0
More Readiness	48.0

The above table reveals the percentage distribution of the selected teachers according to their overall readiness regarding their usage of e-content for teaching. More than half of the teachers i.e. (52%) had less readiness regarding usage of e-content whereas a little less than fifty percent i.e. (48%) of the teachers had more readiness regarding usage of e-content for teaching.

The probable reasons behind this finding could be many. Firstly, the respondents of the present study had expressed that they have unfavorable perceptions towards technology, despite having high knowledge regarding e-content. Almost (55%) of the respondents have expressed that they have unfavorable perceptions towards technology. At the same time, these respondents (65.7%) also had high knowledge regarding e-content. This may be due to certain external factors like the technological facilities available on their premises. One of the empirical researches conducted by Mayya (2007) at Udupi, India, entitled, "Study on integrating new technology to commerce curriculum: how to overcome teachers' resistance" revealed that lack of adequate computers in the colleges is responsible for under usage of technology of teaching. Thus, the accessibility of computers and related technology is important for the teachers to be mentally and physically ready for the usage of e-content for teaching. Further, the lack of effective internet access may also have added to the teachers' less readiness for the usage of e-content for teaching.

Moreover, the personal factors namely the number of training in the usage of e-content for teaching may also have contributed to this finding. It is generally seen that inefficiency in the related skills may lead to the unpreparedness of the person. This is also supported by the research conducted by Miglani and Awadhiye (2017), who conducted research entitled, "Mobile learning: readiness and perceptions of teachers of

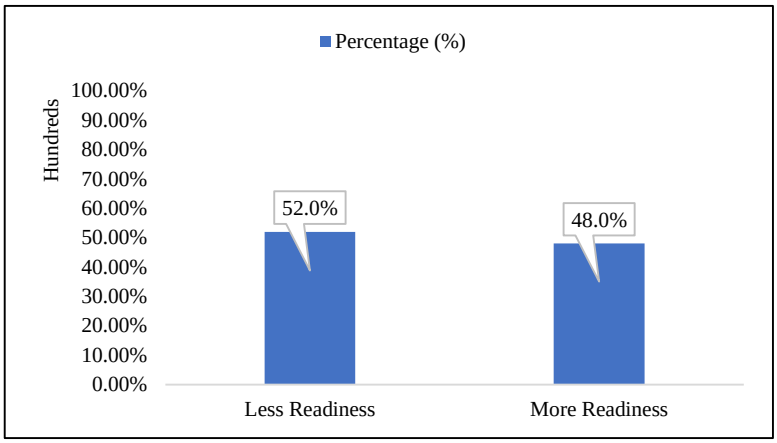
open universities of commonwealth Asia". The findings highlighted a higher percentage of the teachers were less ready with the advanced skills in using technology for teaching. The study recommended that teachers should be trained for advanced skills in using technology for teaching, who can become master trainers to impart higher skills to their colleagues. Further, this study also highlighted that it is important to deliver the content in a pedagogically relevant framework and instructional design for m-learning.

Thus, if the university teachers have to be prepared to effectively use e-content for their teaching then the universities should look into requirement for providing related facilities. For this, top-down planning strategies should be designed by the educational institutes to bring about relevant and significant changes in the adoption of technology that is e-content for the teaching by the teachers. Proper and effective implementation strategies like rigorous training sessions for teachers to be organized for teaching the skills of usage of e-content for teaching.

Research grants should be provided to the teachers to develop and use e-content for teaching. The coursework planning should include compulsory adoption of e-content usage to a certain extent at both undergraduate and postgraduate programmes. Incentives can be offered to the teachers like API points for the usage of e-content in teaching. Thus, certain such strategies may motivate university teachers to be ready for the usage of e-content for their teaching purposes effectively.

Figure 13: Percentage Distribution of selected Teachers according to their overall readiness regarding their usage of e-content for teaching

(n=300)



4.8.2 *Variable wise Overall Readiness of the Teachers regarding the usage of e-content for teaching*

Table 34: Percentage Distribution of the selected teachers regarding their overall readiness for the usage of e-content for teaching in relation to selected variables

(n=300)

Variable	Category	Less Readiness (%)	More Readiness (%)
Age	Young	50.3	49.7
	Old	54.1	45.9
Job-status	Permanent	48.4	51.6
	Temporary	54.5	45.5
Area of Specialization	Sciences & Technology	58.4	41.6
	Humanities	63.9	36.1
	Social Science	30.8	69.2
Teaching Experience	Less Experienced	51.4	48.6
	More Experienced	52.8	47.2
Computer & Internet Usage	Low Usage	55.5	44.4
	High Usage	46.7	53.3
Computer and internet related Technical competency	Low Competency	67.7	32.3
	High Competency	40.5	59.5
Perceptions towards technology	Unfavorable Perception	51.2	48.8
	Favorable Perception	53.0	47.0
Knowledge regarding e-content	Low Knowledge	56.3	43.7
	High Knowledge	49.7	50.3
Interest in e-content for teaching	Less Interest	64.9	35.1
	More Interest	38.9	61.1

The above table 34 reveals that with reference to age as a variable young teacher were almost equally distributed with reference to less and more readiness. Though there is not a much-distinguished difference in the readiness of teachers for the usage of e-content for teaching with reference to age. Referring to table no.34, however almost fifty-five percent of the older teachers had less readiness in comparison to their counterparts i.e. (50.3%) of the younger teachers.

The probable reason behind this finding could be that younger teachers may be more techno-savvy in comparison to older teachers. They may have more exposure to the usage of e-content for higher education. The young generation is pro-active as far as technology is concerned. They spend time on technologically based devices for their personal, professional, social, and recreational activities. Hence, they may be more ready to use the e-content for their teaching as well.

This finding is well supported by the research study conducted by Navani and Ansari (2016) entitled, "A study of e-learning readiness of university faculty at Pantnagar, India." Amongst the several other defined socio-personal characteristics of teachers, age was considered critical. The study concluded that those teachers who were senior in age do not think positively about e-learning. This is expected and is also a reflection of the generation gap expressed by the authors.

Yet another research study conducted by Contreras and Hilles (2014) entitled, "Assessment in E-Learning Environment Readiness of Teaching Staff, Administrators, and Students of Faculty of Nursing-Benghazi University, at Libya, highlighted that teachers who belonged to the age bracket between 21-25 years old had higher e-learning readiness in comparison to the respondents with the age bracket of 26-30 years.

Oyeleke and Apena (2016), did a study on, "Adoption of e-learning among instructors in the higher institutions in Nigeria: A case study of Obafemi Awolowo University, Nigeria" with one of the objectives which stated, "to examine the effect of age on the adoption of e-learning". The focus of the objective was to investigate if age differences will affect instructors' adoption of e-learning. The result concluded there was no difference in the attitude of instructors towards the adoption of e-learning across different age categories. The results showed a cloud of confusion, level of unpreparedness, and skepticism by the instructors.

A study entitled, "Teachers attitudes towards e-learning courses in Bulgarian universities", conducted by Tuparova et. al. (2006) to estimate the current level and practices of e-learning in Bulgarian universities and to analyze the attitude of using ICT as well as e-learning by the lecturers from higher educational institutes. The results of the study were interesting highlighting the negative factors like a deficit of academic recognition, financial stimuli, time-consuming activity, lack of software and hardware facilities for using the technology for higher education teaching. Further, the lecturers

with significant teaching experience of more than 10 years were less inclined to apply the e-content for teaching.

Thus, the present finding with reference to age and readiness of teachers for using e-content for teaching highlighted that older teachers were higher in the number who were less ready for e-content usage in comparison to their counterparts.

Therefore, it implies that teacher training programmes and on job orientation courses for teachers should have units assigned for the usage of e-content in teaching. Exercises should be imparted in the sessions to be engaged in the process of e-content integrated teaching. Thus, providing ICT-based training environments can be very effective in nullifying the age gap between the teacher's readiness for using e-content for their teaching.

The overall readiness of teachers for using e-content for teaching with reference to their job status revealed that (51.6%) of the permanent teachers had more readiness for using e-content for teaching. However, the higher percentage i.e. (54.5%) of the temporary teachers had less readiness for using e-content for their teaching.

The probable reason for the above finding could be that teachers who have permanent jobs may be highly motivated and may aspire to grow in their careers. Hence, may be more inclined to use technology for their teaching. However, the temporary teachers may not be sure of their future career in teaching which may have led them to not make efforts in using e-content for their teaching. Further, the usage of e-content may need rigorous and robust planning for teaching. This again requires high motivation which is possible once they are settled in their jobs.

Another probable reason for less readiness of temporary teachers may be the financial constraint. The temporary teachers with limited salaries may not be inclined to explore the possibilities of searching, developing, and using e-content for their teaching in comparison to the permanent teachers who also have the facilities to apply for research grants for developing and using e-content for their teaching. The job and financial securities can be very crucial factors for the motivation of teachers to use innovativeness in their teaching by the virtue of using e-content for their teaching.

Upon exploring the readiness of the selected teachers regarding the usage of e-content in relation to their area of specialization, a very interesting finding was

revealed that is (58.4%) from the science and technology stream had less readiness for the usage of e-content for their teaching. Almost majority of the respondents that is (63.9%) from the Humanities stream also had less readiness towards the usage of e-content for their teaching. However, a very interesting picture that is the finding was reversed in the case of teachers from the social sciences stream. The very high percentage that is (69.2%) of the teachers from social science backgrounds had more readiness towards the usage of e-content for teaching.

The probable reason for such a finding could be that the use of technology is relatively a new area for the social sciences in comparison to their teachers from the science and technology stream. Various attempts worldwide for the gradual usage of technology may be inspiring the teachers from a social science background to be ready for the usage of e-content for the teaching. It was well expressed by Agboola (2006), that e-learning confidence and e-learning training have a strong influence on both adoptions of e-learning and e-learning readiness. Many attempts have been made in the area of social sciences for organizing workshops, awareness programmes, in-service programmes on e-content development and its use and teaching, as this field is in its infancy for the utilization of technology for teaching which may have inculcated the readiness the social sciences teachers to use e-content for their teaching.

Table 34 also revealed that a higher percentage of both teachers with less as well as more teaching experience in teaching had less readiness for the usage of e-content for their teaching in comparison to their counterparts. The differences in the percentage of the teachers with less or more readiness however was not that significant.

The probable reason for such scattered findings could be many. Firstly, the teachers with a greater number of years of teaching to their credit, may not find the need of taking support the usage of e-content for their teaching, as they may have experienced in terms of years of teaching and expertise over the content which they teach. On the contrary, (47.2%) of the teachers with more teaching experience had more readiness for the usage of e-content for their teaching. They may have realized after many years of teaching that amalgamations of the technology with teaching yield better and more effective results. Hence, they may be more prepared for the e-content usage for the teaching.

Further, the respondents with less experience in teaching in the present study are almost equally divided between less and more readiness for the usage of e-content

for the teaching. The probable reasons could be the need to progress in the profession, to attain promotions, the inspiration to excel in teaching for the teachers with more readiness to use the e-content for their teaching. At the same time, the teachers with less teaching experience and less readiness can be attributed to the planning for excelling in content expertise first and then getting readiness for the using technology for teaching. Teachers with less experience may be at the exploration stage in their field of specialization. Hence, probably they may have prioritized the command over the subject than the usage of e-content for the teaching.

The findings with regards to the overall readiness of teachers for the usage of e-content for the teaching in relation to their teaching experience implies that the need of the hour is to organize rigorous skill-based training sessions for the e-content usage for teaching. All teachers should be compelled to use e-content keeping in mind the positive contributions of e-content usage and development for teaching.

The overall readiness of the selected teachers of the Maharaja Sayajirao University of Baroda with respect to the variable computer and internet usage revealed that teachers who used less computers and internet usage showed less readiness for using e-content in teaching whereas almost (53.3%) of the selected teachers who had high usage of computers and internet showed more readiness towards usage of e-content in teaching. In this finding also, the teachers are almost equally distributed. It is quite obvious that teachers who had high usage of computers and internet had more readiness for e-content in comparison to their counterparts. More familiarity with technology leads to more usage. The probability to resolve any barriers in the usage of technology might be high which may lead to high usage. Further when the usage of technology increases it also opens up the advantages, facilities and opportunities it provides specially in teaching. Thus, higher usage is directly proportional to the more readiness of the teachers in using e-content for teaching.

Research conducted by Srinivas and et.al (2017) entitled, “Factors affecting e-readiness of students and teachers in agricultural universities in India”, highlighted that very less that is below (45%) of the teacher respondents use ICT tools for their teaching the reasons quoted by the researchers were the less awareness and less accessibility of the ICT for teaching. Further, the researchers concluded that ICT provides an opportunity for professionals to deliver quicker and quality outputs. Hence congenial environment needs to be created for the ICT-enabled education at

institutional levels. Also, the research highlighted that teachers should be provided training and operational knowledge to have better usage of ICT tools for their teaching.

The Findings related to the computer and internet related competency revealed that a high majority of the respondents that is (67.7%) with less competency in computer and internet related competency had less readiness in comparison to their counterparts.

However, (59.5%) of the selected teachers with more competency had more readiness for usage of the e-content for the teaching. It is a very much accepted fact that people who have command over certain skills or have high competency in using technology will have better preparedness to use it. This finding is well supported by the research conducted by Navani and Ansari (2016), entitled "Study of e-learning readiness of teachers of state agriculture university". The findings highlighted that variable computer literacy was positively correlated with e-learning readiness of teachers. It was also found that the variable computer literacy was significantly correlated with ELR. The research concluded that the skills, motivation, and attitude towards the new and innovative technology can prepare the ground for adopting the e-learning systems in the delivery of education services. The findings of the study underscored the need to upscale the competencies of the teachers to adopt e-learning systems in teaching.

Table 34 also revealed that more teachers had unfavorable perceptions towards technology than the teachers with favorable perceptions. From the teachers with unfavorable perceptions almost (51.2%) of them had less readiness for e-content usage for their teaching. On the contrary to this, from the teachers with favorable perceptions towards technology, the number of teachers that is (53%) of them had less readiness for the usage of e-content for the teaching. This highlights the teachers with favorable perceptions towards technology reflected less readiness for the usage of e-content for their teaching. The probable reason for such finding could be some other factors like certain barriers namely accessibility of e-content relevant to their content of teaching or the time consumption factor for the usage of e-content in their teaching or the technical difficulties in using the e-content for the teaching rather than their perceptions for the technology.

However certain researches have highlighted that there exists a direct positive correlation ship between attitudes or perceptions of teachers towards technology and the usage of the content for the teaching.

A study conducted by Mayya (2007), entitled, "integrating new technologies to commerce curriculum: how to overcome teachers' resistance", at MGM colleges, Udupi, India. The findings of this study highlighted that teachers who do not realize the advantages of using technology in their teaching are less likely to make use of ICT for teaching. Further another research study on mobile learning: readiness and perceptions of teachers of open universities of Commonwealth Asia conducted by Miglani and Awadhiye (2017) at Indira Gandhi National Open University, New Delhi, India, with an objective to assess and evaluate readiness and perceptions towards M-learning of the teachers of open universities of Commonwealth Asian countries. The results revealed that teachers had positive perceptions towards M-learning. However, they were neutral about the replacement of e-learning with M-learning. It was concluded that open universities should look into the modalities for providing M-learning if teachers are ready. For this, the top-down planning strategy should be adopted by the institutions in order to bring about successful and significant changes at the institutional levels.

Yet another study on the e-readiness of State open universities towards online learning – A study of Lakshmi and Agarwal (2018), highlighted that personal attitude is classified as very high means the faculty have positive opinions for a condition of readiness and are self-motivated to excepting transitions, innovations, and modifications.

The overall readiness of the teachers with respect to the variable knowledge regarding e-content revealed that more teachers who had high knowledge regarding e-content had more readiness for the usage of e-content for their teaching, in comparison to their counterparts. Similarly, a higher percentage of the teachers that is (56.3%) with low knowledge regarding e-content had less readiness towards usage of e-content for the teaching.

The reasons are obvious that ones who possess more knowledge regarding anything would likely be prepared to utilize it. However, people with less knowledge in a particular field might not be able to use it for application purposes.

BJEKIC and et. al., (2010), in an article entitled, "Teacher Education from e-learner to e-teacher: master curriculum", expressed that e-teaching requires a wide spectrum of e-roles. It is necessary for teachers in an e-education environment to acquire sufficient knowledge about the teaching and e-learning. Authors also highlighted that e-learning can contribute to addressing each challenge by enhancing the preparations of new teachers providing high-quality and readily accessible professional development opportunities for active teachers. Another quote from research study conducted by Krishnakumar and et. al., (2011)., "attitude of teachers of higher education towards e-learning", highlighted that teachers who are possessing and not possess the knowledge of computer causes change in attitude towards e-learning. The study revealed that the teachers who possess knowledge regarding computers had a positive attitude towards e-learning. Thus, this finding implies that universities should ensure that their teachers possess sound knowledge related to e-content, its usage, and development. This will have a positive impact on building an e-teaching and learning environment in the university system. For this awareness generation programmes, training programmes, capacity building workshops should be organized on regular basis. Robust planning and implementation strategy in this regard can prove to be effective in establishing the pro-technology teaching-learning environment in the university.

The table highlighted surprising, yet interesting findings related to the variable interest in e-content for teaching. The findings revealed that almost the majority that is (64.9%) of the teachers with less interest in the usage of e-content for teaching had less readiness towards the usage of e-content for teaching. However, a higher percentage of the teachers i.e.(61.1%) with more interest in teaching with e-content, had more readiness. This finding is quite obvious that if a teacher is interested in e-content usage then definitely he/she will be more ready to adopt it.

However, if teachers have less interest in e-content usage then they will feel less ready to use it also. Therefore, this finding implies that to begin with teachers should be motivated to start the usage of e-content, proper facilities should be offered to them. Thus, the interest of teachers is an important factor for the optimum usage of e-content for classroom teaching.

Figure 14: Percentage Distribution of selected Teachers according to their overall readiness regarding their usage of e-content for teaching in relation to Age

(n=300)

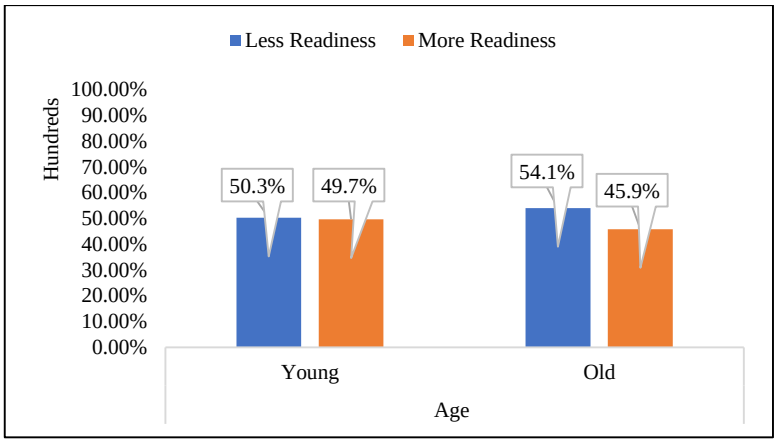


Figure 15: Percentage Distribution of selected Teachers according to their overall readiness regarding their usage of e-content for teaching in relation to job Status

(n=300)

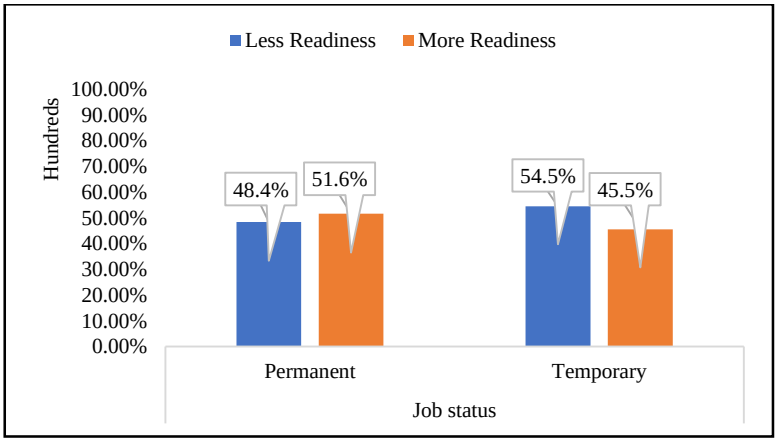


Figure 16: Percentage Distribution of selected Teachers according to their overall readiness regarding their usage of e-content for teaching in relation to Area of specialization

(n=300)

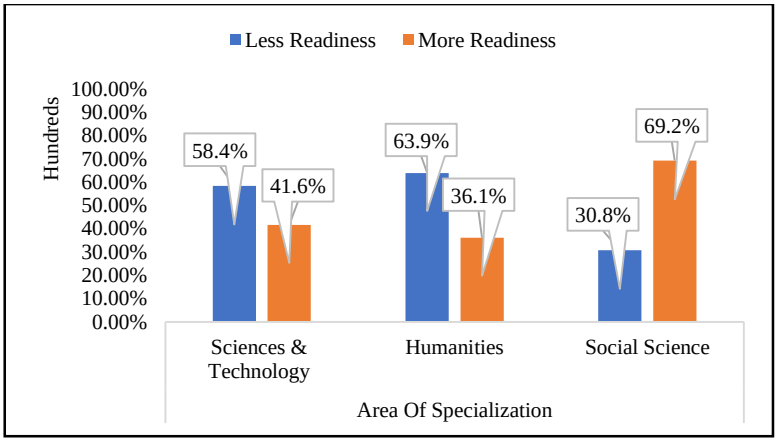


Figure 17: Percentage Distribution of selected Teachers according to their overall readiness regarding their usage of e-content for teaching in relation to Teaching Experience

(n=300)

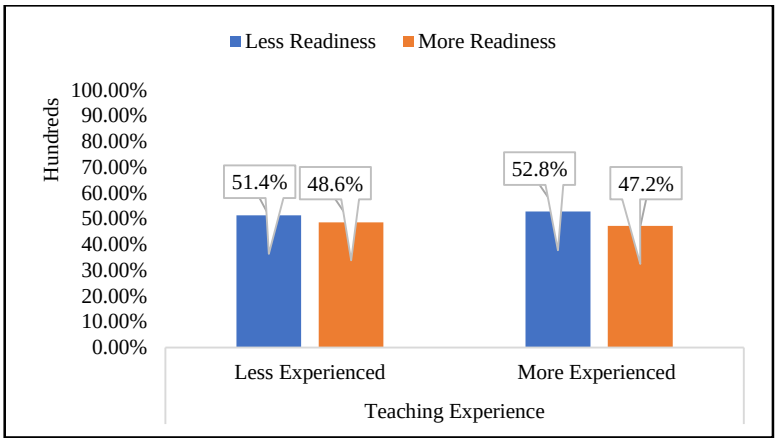


Figure 18: Percentage Distribution of selected Teachers according to their overall readiness regarding their usage of e-content for teaching in relation to Computer and internet Usage

(n=300)

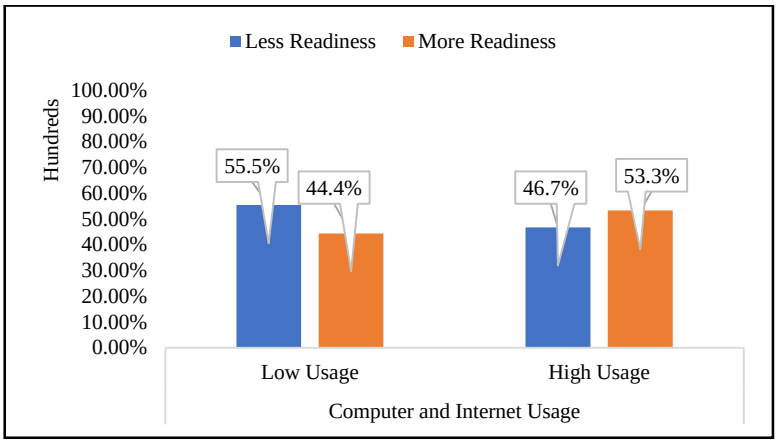


Figure 19: Percentage Distribution of selected Teachers according to their overall readiness regarding their usage of e-content for teaching in relation to computer and internet related Technical competency

(n=300)

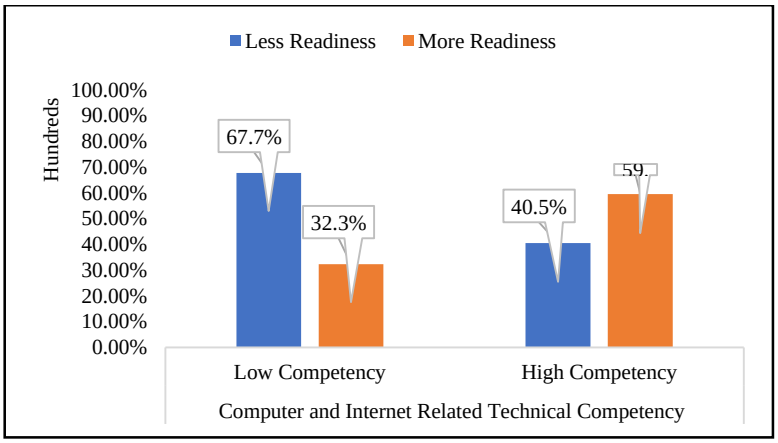


Figure 20: Percentage Distribution of selected Teachers according to their overall readiness regarding their usage of e-content for teaching in relation to perception towards technology

(n=300)

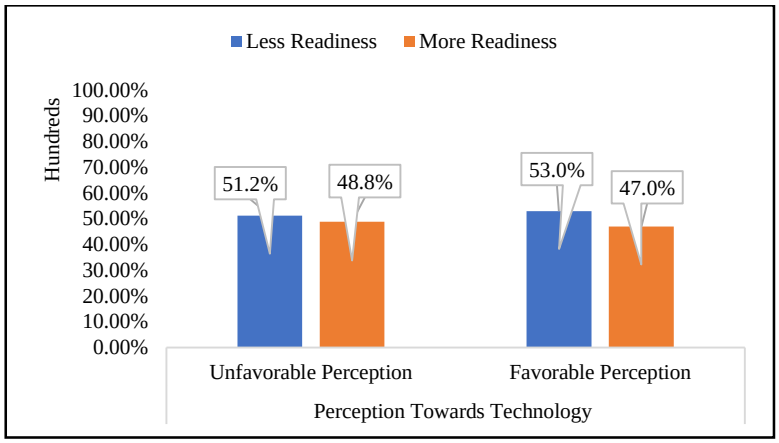


Figure 21: Percentage Distribution of selected Teachers according to their overall readiness regarding their usage of e-content for teaching in relation Knowledge regarding e-content

(n=300)

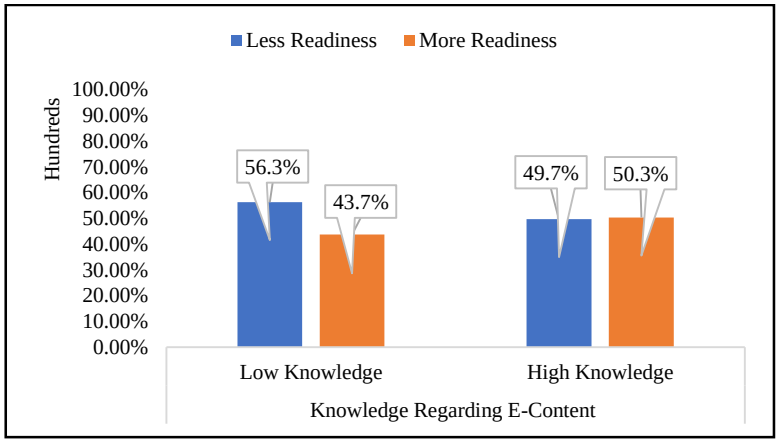
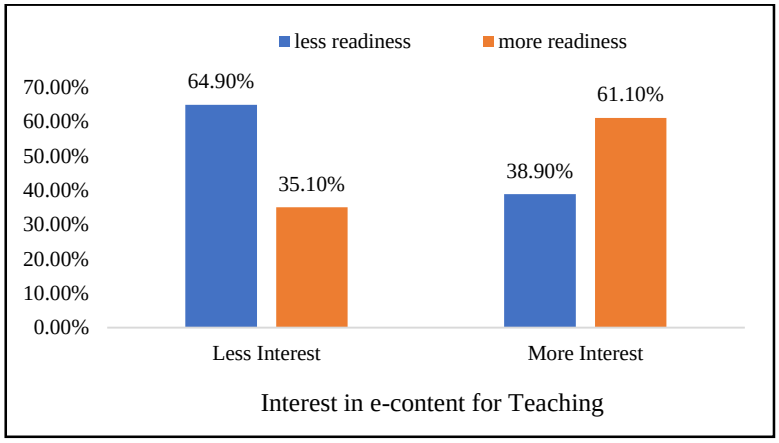


Figure 22: Percentage Distribution of selected Teachers according to their overall readiness regarding their usage of e-content for teaching in relation to Interest in e-content for teaching

(n=300)



4.8.3 *Variable wise differences in the Overall Readiness of the teachers regarding the usage of e-content for teaching*

Table 35: t-value showing variable wise differences in the overall readiness of the selected teachers regarding the usage of e-content for teaching

(n=300)

Variable	Category	N	Mean	Std. Deviation	*t-value*	*P-value*
Age	Yong	165	365.7	45.0	1.23	0.22
	Old	135	358.7	54.0	1.21	
Status of job	Permanent	124	365.9	55.2	0.69	0.485
	Temporary	176	360.9	44.6	0.67	
Teaching Experience	Less Experience	177	363.2	45.7	.250	0.802
	More Experience	123	361.7	54.2	.243	
Computer & Internet Usage	Low Usage	180	357.6	48.1	2.16	***0.032 (Significant)**
	High Usage	120	370.1	50.4	2.14	
Computer & internet related technical Competencies	Low Competency	127	344.22	44.50	5.82	***0.00 (Significant)**
	High Competency	173	376.06	48.41	5.90	
Perceptions towards technology	Unfavorable Perceptions	166	362.63	49.91	0.018	0.104
	Favorable Perceptions	134	362.52	48.73	0.018	
Knowledge regarding e-content	Low Knowledge	103	353.60	51.31	2.126	***0.034 (Significant)**
	High Knowledge	197	366.61	47.96	2.072	
Interest in e-content for teaching	Less Interest	151	342.36	40.60	7.484	***0.00 (Significant)**
	More Interest	149	383.07	48.95	7.83	

Above table 35 indicates that the Overall readiness of the selected teachers of The Maharaja Sayajirao University of Baroda did not differ significantly according to the selected variable namely Age, Status of Job, Teaching Experience, Perception towards technology.

Thus, the null hypothesis stating that there will be no significant differences in Overall Readiness regarding Usage of e-content for teaching of the selected teachers with reference to the above-mentioned variables was accepted.

Above table also indicates that the Overall Readiness of the selected teachers of The Maharaja Sayajirao University of Baroda differed significantly with variable**s** Computer and Internet usage, Computer and internet related technical competencies and Knowledge regarding e-content, Interest in e-content for teaching.

Thus, the null hypotheses stating that there will be no significant difference in the Overall Readiness of the Selected teachers regarding the usage of e-content for teaching with the selected variables Computer and Internet usage, Computer and internet-related technical competencies and knowledge regarding e-content, Interest in e-content for teaching were rejected.

The probable reasons for the significant differences in the overall readiness of the selected teachers for the usage of e-content for the teaching with reference to computer and internet usage could be that when computer usage is high the teachers will definitely be more prepared for usage of e-content for teaching.

The number of hours one uses the computer can be the deciding factor for facing challenges if any, and also the various ways one adopts in finding solutions. This can give immense experience to be prepared for the usage of e-content for teaching. it is generally seen that more the usage, more the exposure towards the technology and thus, more readiness for using and adopting it. The mean scores of the teachers who had high usage of computers and the internet were much higher than their counterparts. This may be the reason of significant differences in the overall readiness of the teachers regarding the usage of e-content for teaching. More computer and internet usage by the selected teachers might have created confidence amongst them thus leading to more readiness for e-content usage.

A similar finding was also revealed in a study conducted by Oluniyi and et, al., (2016) entitled, "Adoption of E-Learning among instructors in Higher institutions in Nigeria: A case study of Obafemi Awolowo University, Nigeria". The findings revealed that one major area that shows a positive direction towards adoption is the instructor's response on the perceived usefulness of e-learning. A higher percentage of respondents would accept e-learning or would be ready to use it because of its usefulness.

Thus, it implies that the higher the computer and internet usage the higher will be the exposure towards its benefits and usefulness Thus, the higher will be the readiness of the teachers to use e-content for teaching. The findings recommend that the universities should make it mandatory to use computers and the internet for not only teaching but research and administrative work as well. Thus, integration of ICT into teaching, research, extension, and administrative work for classes, preparing annual reports of departments, etc. which includes submission of data related to events held, students' activities, performances, internships, examinations, etc. will increase the teacher's computer and internet usage and thus they will realise its benefits and also, they will develop good ICT skills. Thus, in return can be instrumental in providing ICT based institutional environment.

This approach of using the ICT for their profession may help the teachers to become skillful in using ICT for teaching and related work. This will help in strengthening the ICT-based environment of the educational institutions.

The table also revealed that there were significant differences in the overall readiness of the selected teachers for the usage of e-content for the teaching with reference to computer and internet related technical competencies could be that when computer usage is high the teachers will definitely be more prepared for usage of e-content for teaching.

The mean scores revealed that the teachers who had competency related to computer and internet were readier for the usage of e-content in their teaching in comparison to their counterparts. There is direct relationship between two aspects namely technical competencies and the readiness to use technology. The teachers who

are proactive in using technology in general may definitely be inclined to use it in teaching as well. The confidence, zeal and interest for e-content for teaching may be higher amongst those teachers who are technologically competent. This reflects that if our universities and higher education systems have to be in competition with the world then the adoption of technology is the key to success. The 21st century is the era of technology, the technological revolution has an impact on the students' demographics cost of education, delivery formats, the introduction of the online education system. The progress of technology usage in each aspect of higher education worldwide is reflected by leaps and bounds. The technological revolution has brought sea changes in the entire educational system. Integration of technology in education, changes in teaching-learning content, the stakeholders like students, parents, leaders, administrators, faculty members, policy makers and other expectations require robust institution-based strategic planning to incorporate ICT in education system. In this regard, preparations for teacher e-readiness are very important and an initial step towards harnessing the power of technology for higher education systems.

The table also revealed that there were significant differences in the overall readiness of the selected teachers for the usage of e-content for the teaching. Here the significant differences are revealed in the overall readiness of the teacher regarding the usage of e-content for teaching with reference to the variable, 'knowledge regarding e-content', the mean scores highlighted that the teachers who had high knowledge regarding e-content were more ready for its usage in comparison to their counterparts. Any teacher who possesses higher knowledge regarding e-content, its applications, its benefits for teaching then that teacher is bound to be ready for its usage in comparison to those who have less knowledge regarding e-content.

Bjekis, et. al., (2010) expressed in an article entitled, "Teacher education from e-learner to e-teacher: master curriculum", that e-teaching required a wide spectrum of e-roles. It is necessary for teachers in an e-education environment to acquire sufficient knowledge about e-teaching. The author further stated that e-learning can contribute to addressing each challenge by enhancing the preparation of new teachers, providing high quality and readily accessible professional development opportunities for active teaching, and making this profession more attractive.

Further, Mayya (2007) conducted a research study entitled, "integrating new technologies to commerce curriculum: how to overcome teacher's resistance", teachers who do not realise the advantages of using technology in their teaching are less likely to make use of ICT in their teaching.

Krishnakumar and et. al., (2011)., conducted a study entitled, "Attitudes of teachers of higher education towards e-learning". The findings revealed that teachers who possess knowledge of computers had a positive attitude towards e-learning. The mean differences were in favour of teachers who possessed knowledge about computers.

Thus, this implies that all university teachers should compulsorily have the knowledge regarding e-content. Those who do not possess such knowledge should make efforts in acquiring through capacity building programmes, on job refresher courses, so as to overcome hindrances coming in their way to utilise e-content for teaching. "e-learning confidence and e-learning training have a strong influence on both e-learning adoption and e-learning readiness", expressed Agboola (2006).

Table 36: Analysis of Variance (ANOVA) showing variable wise differences in the overall readiness of the selected Teachers regarding the usage of e-content for teaching with respect to their area of Specialization

Source of variance	Sum of Squares	df	Mean Square	F value	Sig.
Between Groups	44651.890	2	22325.945	9.719	.000 *sig.
Within Groups	682241.190	297	2297.108		

Significant differences were found in the overall readiness of the teachers regarding the use of e-content for their teaching according to their areas of specializations. Hence the Null Hypothesis stating there will be no significant differences in the overall readiness of teachers regarding the use of e-content for their teaching and their area of specialization was rejected.

Table 37: Tukey's HSD Comparison for Overall Readiness of the Teachers regarding the use of e-content for their teaching with their Area of Specialization.

Area of Specialisation		Mean	Mean Difference (I-J)	Std. Error	Sig.
Sciences & Technology	Humanities	359	12.913	6.526	.119
	Social Science		-23.569*	6.814	.002
Humanities	Sciences & Technology	352	-12.913	6.526	.119
	Social Science		-36.482*	6.709	.000
Social Science	Sciences & Technology	383	23.569*	6.814	.002
	Humanities		36.482*	6.709	.000
	*. The mean difference is significant at the 0.05 level.				

The above table shows that there were significant differences among the overall readiness of the teachers regarding the use of e-content for their teaching according to their area of specialization. The teachers belonging to the Social Sciences (383) had highly significant mean differences than their counterparts from Science & Technology (359, p=.119) and Humanities (352, p=.000). It means that the teachers from the Social Sciences background had overall readiness towards the use of e-content for their teaching. However, no overall significant differences were found amongst teachers from Science & Technology and Humanities, regarding the use of the e-content for their teaching.

4.8.4 *Aspect wise Readiness of the teachers regarding the usage of e-content for teaching*

Table 38: Percentage distribution of the selected teachers according to Aspect wise overall Readiness regarding the usage of e-content for teaching

(n=300)

Aspects Name	Less readiness (%)	More readiness (%)
Environment Aspect	49.3	50.7
Financial Aspect	42.3	57.7
Technology Aspect	53.7	46.3
Course Content Aspect	51.7	48.3

The above table 38 revealed that half of the teachers i.e. (50.7%) had more readiness for the usage of e-content in relation with the Environment aspect whereas less percentage of the teachers i.e. (42.3%) had less readiness for e-content usage in relation with the Financial aspect. Upon looking at the Technology Aspect, it was revealed that more than half of the teachers i.e. (53.7%) had less readiness regarding usage of e-content for teaching whereas more than half of the teachers i.e. (51.7%) had less readiness regarding the usage of e-content for teaching in relation with the Course Content aspect.

Figure 23: Percentage Distribution of selected Teachers according to aspect wise overall readiness regarding the usage of e-content for teaching

(n=300)

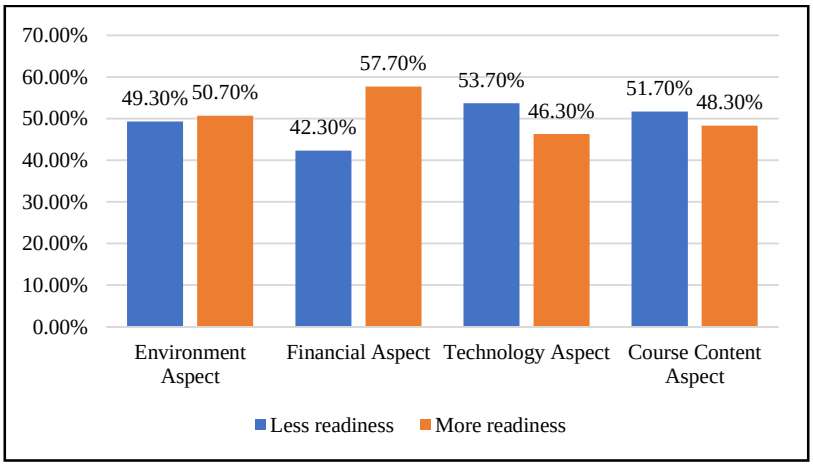


Table 39: Percentage Distribution of the Teachers according to their readiness regarding usage of e-content for teaching in relation to "self" and "department" with reference to Environment aspect and Technology aspect

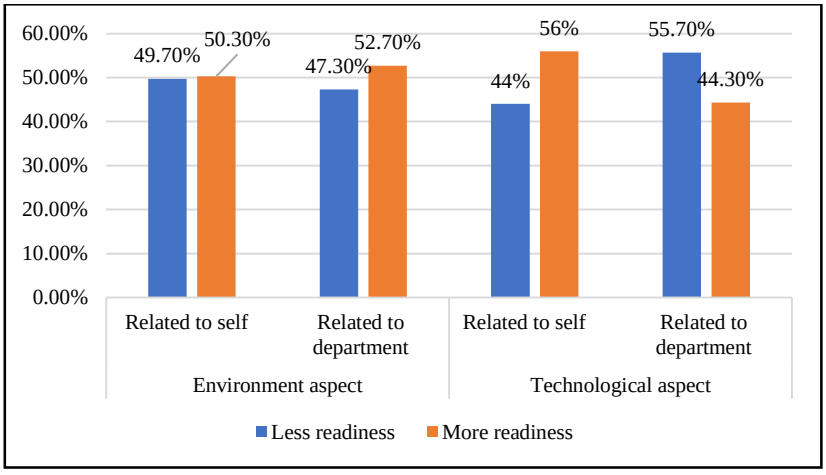
(n=300)

Aspects	Category	Less readiness (%)	More readiness (%)
Environment aspect	Related to self	49.7	50.3
	Related to department	47.3	52.7
Technological aspect	Related to self	44.0	56.0
	Related to department	55.7	44.3

Under Environment Aspect, in relation to self, it was observed that half of the teachers i.e. (50.3%) had more readiness regarding usage of e-content for teaching whereas, in relation with the Department, it was observed that a little less than half i.e.(47.3%) of the teachers had less readiness regarding usage of e-content. Under Technology Aspect, in relation to self it was observed that more than half of the teachers i.e. (56.0%) had more readiness regarding usage of e-content for teaching whereas, in relation with the Department, it was observed that a little more than half i.e. (55.7%) of the teachers had less readiness regarding usage of e-content.

Figure 24: Percentage Distribution of the Teachers according to their readiness regarding usage of e-content for teaching in relation to "self" and "department" with reference to Environment aspect and Technology aspect

(n=300)



4.8.5 *Readiness of the Teachers regarding the usage of e-content for teaching in relation to Environmental Aspect*

4.8.5.1 Variable wise Readiness of the Teachers regarding the usage of e-content for teaching in relation to "self" with reference to environmental aspect

Table 40: Percentage Distribution of the selected Teachers according to their "self" readiness for the usage of e-content for teaching in relation to the selected variables with reference to the Environmental Aspect

(n=300)

Environment Aspect – Self Readiness			
Variable	**Category**	**Less readiness (%)**	**More readiness (%)**
Age	Young	44.8	55.2
	Old	55.6	44.4
Job-status	Permanent	49.2	50.8
	Temporary	50.0	50.0
Area of Specialization	Sciences & Technology	59.4	40.6
	Humanities	58.3	41.7
	Social Science	28.6	71.4
Teaching Experience	Less Experience	48.0	52.0
	More Experience	52.0	48.0
Computer & Internet Usage	Low Usage	48.3	51.7
	High Usage	51.7	48.3
Computer & internet related Technical competency	Low Competency	63.8	36.2
	High Competency	39.3	60.7
Perceptions towards Technology	Unfavorable Perceptions	48.4	51.2
	Favorable Perceptions	50.7	49.3
Knowledge regarding e-content	Low Knowledge	60.2	39.8
	High Knowledge	44.2	55.8
Interest in e-content for teaching	Less Interest	61.6	38.4
	More Interest	37.6	62.4

Table 40 revealed that almost sixty percent i.e. (55.2%) of the young teachers had more readiness for using e-content whereas half percent i.e. (55.6%) old teachers has less readiness for using e-content in relation to self with reference to the Environment aspect. A little more than fifty percent i.e. (50.8%) of the selected permanent teachers had more readiness for using e-content whereas temporary teachers had an equal level of readiness for using e-content for teaching in relation with Self under the environment aspect.

it was observed that almost a similar percentage of the teachers both from Science and Technology (59.4%) and Humanities (58.3%) had less readiness for the usage of e-content in teaching whereas (71.4%) of the teachers from the area of Social Science had more readiness for the usage of e-content for teaching.

Table 40 also reveals that the teachers with less teaching experience showed more readiness i.e. (52%) for using the e-content in relation with "Self" under the environment aspect whereas it was observed that the teachers with more teaching experience had less readiness i.e. (52%) for using the e-content in relation with "Self" under the Environment aspect. It was also revealed that the teachers who used less of computers and the internet showed more readiness i.e. (51.7%) for using e-content in teaching in relation with "Self" under the environment aspect whereas (51.7%) of the selected teachers who used more of computers and internet showed less readiness towards usage of e-content in teaching in relation with "Self" under the Environment aspect.

The selected teachers with low competency related to computer and internet showed less readiness towards usage of e-content i.e. (63.8%) whereas majority i.e. (60.7%) of the selected teachers with high competency in relation with computers and internet had more readiness regarding usage of e-content in teaching in relation with "Self" under the environment aspect.

Table 40 also revealed that little less than majority i.e. (51.2%) of the selected teachers who had unfavorable perceptions towards technology showed more readiness towards usage of e-content for teaching whereas (50.7%) of the selected teachers who had favorable perceptions towards technology had less readiness towards usage of e-content for teaching in relation with "Self" under the environment aspect. Table 40 also

reveals that the teachers with less knowledge regarding e-content had less readiness i.e. (60.2%) in relation with "Self" under the environment aspect regarding their readiness in the usage of e-content for teaching whereas teachers with high knowledge regarding e-content i.e. (55.8%) had more readiness.

The findings revealed that a majority of teachers i.e. (62.4%) who had more interest in e-content for teaching had more readiness towards usage of e-content for teaching in relation with "Self" under the environment aspect whereas teachers with less interest i.e. (61.6%) in e-content for teaching had lesss readiness towards usage of e-content for teaching

Figure 25: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Age" variable with reference to the Environmental Aspect

(n=300)

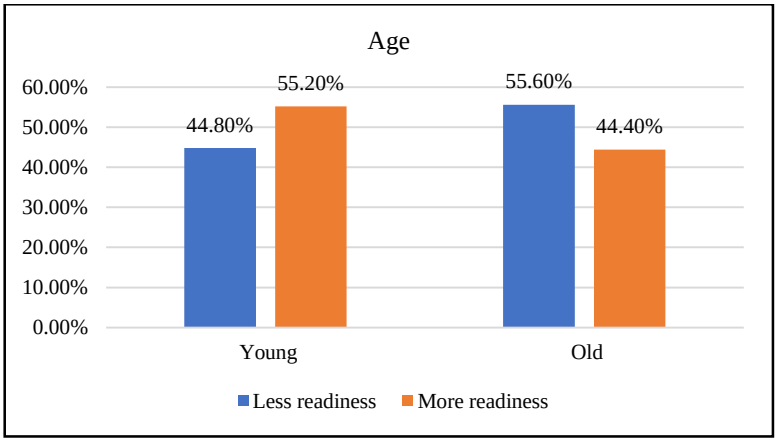


Figure 26: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Job Status" variable with reference to the Environmental Aspect

(n=300)

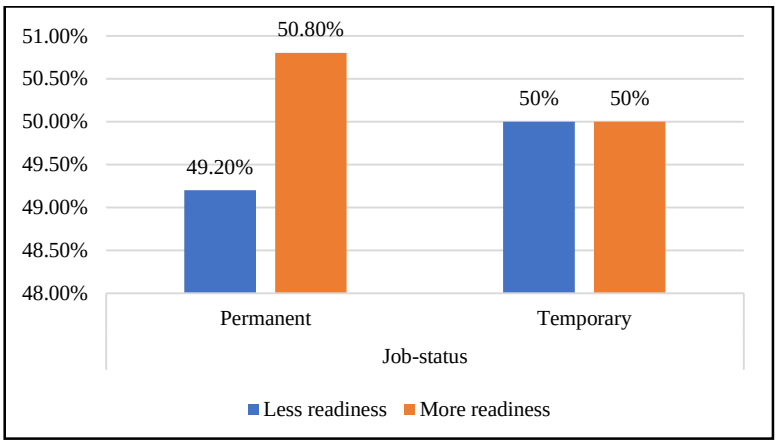


Figure 27: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Area of Specialization" variable with reference to the Environmental Aspect

(n=300)

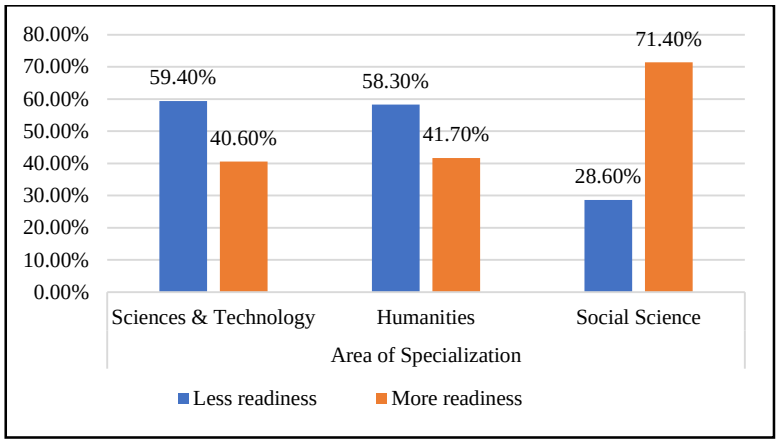


Figure 28: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Teaching Experience" variable with reference to the Environmental Aspect

(n=300)

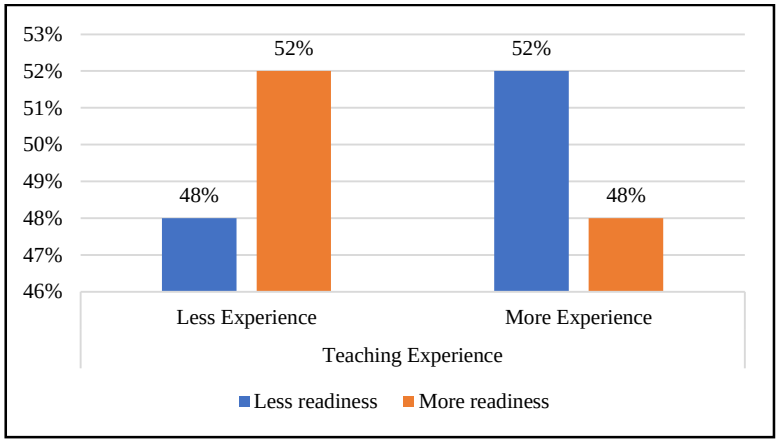


Figure 29: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Computer and internet Usage" variable with reference to the Environmental Aspect

(n=300)

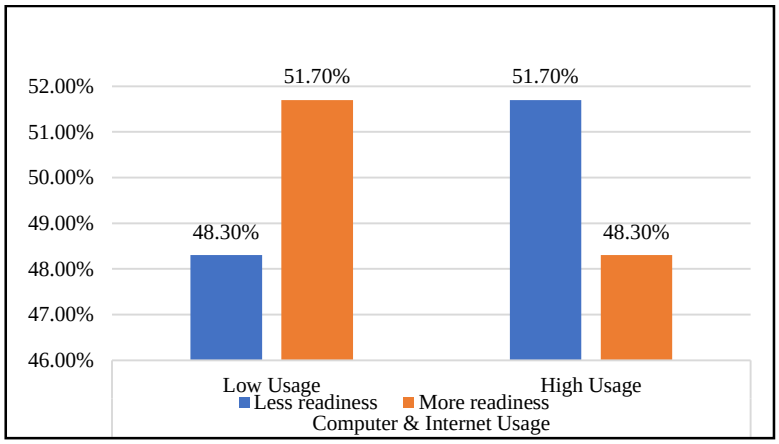


Figure 30: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Computer and internet related technical competency" variable with reference to the Environmental Aspect

(n=300)

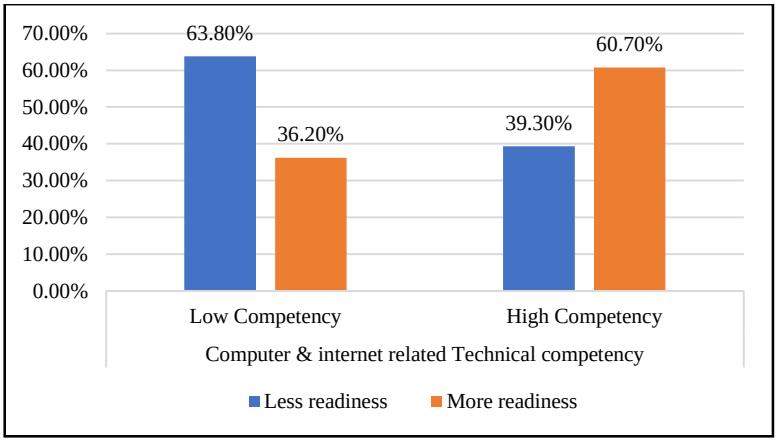


Figure 31: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Perception towards Technology" variable with reference to the Environmental Aspect

(n=300)

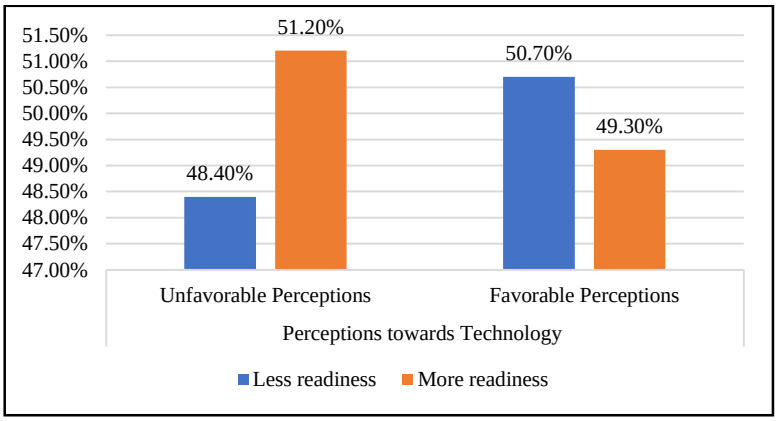


Figure 32: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Knowledge regarding e-content" variable with reference to the Environmental Aspect

(n=300)

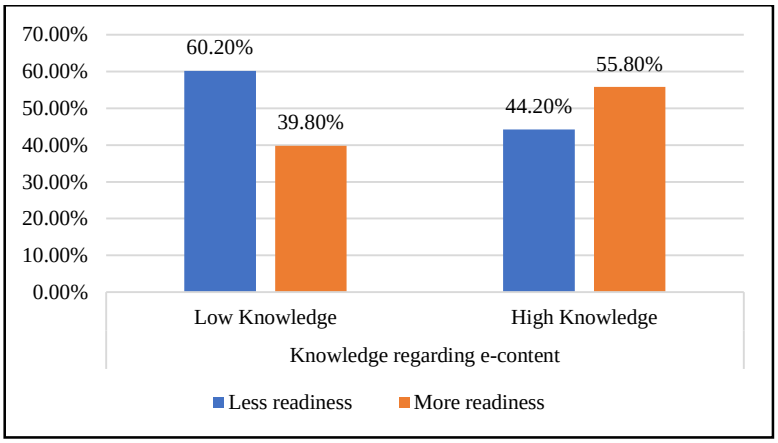
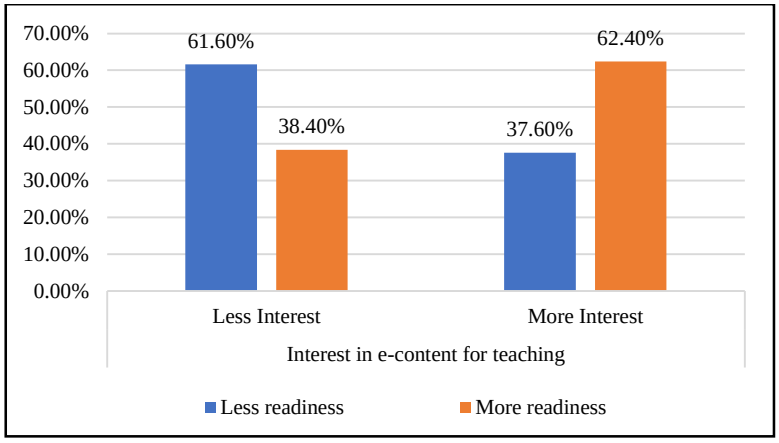


Figure 33: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Interest in e-content for Teaching" variable with reference to the Environmental Aspect

(n=300)



4.8.5.2 Variable wise Differences in the Readiness of the Teachers regarding the usage of e-content for teaching in relation to "self" with reference to Environmental Aspect

Table 41: t- value showing the Variable wise Differences in the Readiness of the Teachers regarding the usage of e-content for teaching in relation to "self" with reference to Environmental Aspect

(n=300)

Variable	Category	N	Mean	Std. Deviation	*t-value*	*P-value*
Age	Young	165	165.2	21.2	1.6	0.112
	Old	135	160.7	27.2	1.6	
Status of job	Permanent	124	163.9	27.5	0.46	0.648
	Temporary	176	162.6	21.5	0.44	
Teaching Experience	Less Experience	177	164.0	21.8	0.71	0.479
	More Experience	123	162.0	27.2	0.68	
Computer & Internet Usage	Low Usage	180	162.6	24.9	0.52	0.603
	High Usage	120	164.1	22.9	0.53	
Computer and internet related Technical Competency	Low Competency	127	155.28	24.13	5.04	*0.000 **Significant**
	High Competency	173	168.95	22.49	4.99	
Perceptions towards Technology	Unfavorable Perception	166	162.78	24.52	0.30	0.764
	Favorable Perception	134	163.63	23.71	0.30	
Knowledge regarding e-content	Low Knowledge	103	157.83	24.06	2.80	*0.006 **Significant**
	High Knowledge	197	165.94	23.75	2.78	
Interest in e-content for teaching	Less Interest	151	154.21	22.18	6.96	*0.000 **Significant**
	More Interest	149	172.23	22.65	6.96	

Above table 41 indicates that the Readiness in relation to "Self" under the Environment aspect of the selected teachers of The Maharaja Sayajirao University of Baroda did not differ significantly according to the selected variable namely Age, Status of Job, Teaching Experience, Perception towards technology and computer and internet usage. Thus, the null hypothesis stating that there will be no significant differences in Readiness in relation to "Self" under the Environment aspect regarding Usage of e-content for teaching of the selected teachers with reference to the above-mentioned variables was accepted.

Above table also indicates that the Readiness in relation to "Self" under the environment aspect of the selected teachers of The Maharaja Sayajirao University of Baroda differed significantly with variable**s** Computer and internet related technical competencies and Knowledge regarding e-content, interest in e-content for teaching.

Thus, the null hypotheses stating that there will be no significant difference in Readiness in relation to "Self" under the Environment aspect of the Selected teachers regarding usage of e-content for teaching with the selected variables, Computer and internet related technical competencies and knowledge regarding e-content, interest in e-content for teaching were rejected.

The teachers who had a higher computer and internet-related competencies and higher knowledge regarding e-content, interest in e-content for teaching had significant differences in their readiness to use e-content for the teaching in relation to self with reference to the environmental aspect in comparison to their counterparts.

This means that teachers who had higher competencies of computers and the internet may be motivated and interested in using e-content. Moreover, these teachers might be hard-working and ready to devote their extra time to learn the usage of the e-content for their teaching.

The findings also revealed that teachers who had high competency skills related to technology had more readiness for the usage of e-content for the teaching. The probable reason could be that experience of any kind helps in persuasion. The expertise over a skill might motivate a person to use it as and when required. The high competency of computer and internet technology might have added to their readiness of the teachers in the usage of e-content for teaching in relation to self with reference

to the environment. While introducing e-content teaching in universities or colleges, we must focus on teacher preparedness, which will be vital to its success. Aside from pedagogical techniques, they must be proficient in the use of ICTs, e-resources and taught in how to design course materials for teaching through e-content. Heinrich (1995), Fullan (1994) and Wang (2002) supported the view that the way a teacher teaches is the product of their own schooling, training and experiences. The adoption of technology by teachers becomes crucial in incorporating teaching through e-content into the mainstream of educational involvements and learning environments in this scenario.

Similarly, the teachers with high knowledge of e-content were also more ready for the use of e-content for the teaching. Knowledge and readiness are directly proportional to each other the more is the knowledge then more timeliness or readiness will the person have to use it. Therefore, such finding where the teachers had higher knowledge about the e-content had more readiness is quite obvious.

Table 42: Analysis of Variance (ANOVA) showing the Variable wise Differences in the Readiness of the Teachers regarding the usage of e-content for teaching in relation to "self" with reference to environmental aspect with respect to the area of specialization.

Source of variance	Sum of Squares	df	Mean Square	F value	Sig.
Between Groups	11470.364	2	5735.182	10.479	.000 *sig.
Within Groups	162555.956	297	547.326		

It can be seen from the above table that there were significant differences in the readiness of the teachers regarding the use of e-content for their teaching in relation to the self with reference to the Environment with respect to their Area of Specialization.

Therefore, the Null Hypothesis stating there will be no significant differences in the readiness of the teachers in relation to the self with reference to the Environment with respect to their area of specialization was not accepted.

Table 43: Tukey's HSD comparison for the Readiness of the teachers regarding the Usage of e-content for their teaching in relation to "self" with reference to environmental aspect with respect to the area of specialization.

Area of Specialization		Mean	Mean Difference (I-J)	Std. Error	Sig.
Sciences & Technology	Humanities	160.31	2.29831	3.23835	.758
	Social Science		-12.10075*	3.38137	.001
Humanities	Sciences & Technology	158.01	-2.29831	3.23835	.758
	Social Science		-14.39906*	3.32903	.000
Social Science	Sciences & Technology	172.41	12.10075*	3.38137	.001
	Humanities		14.39906*	3.32903	.000

The above table shows that there were significant differences in the readiness of the teachers from the categories of athe rea of specializations namely science and technology, social sciences, and humanities regarding the usage of e-content with regards to self with reference to the department. The teachers belonging to social sciences (172.41) had significant mean differences than their counterparts from science and technology (160.31, p=0.001) and Humanities (158.01, p=0.00). It means that the self-environment aspect for the teachers belonging to the social sciences area do have an influence on their readiness to use the e-content for the teaching. However, no significant differences were found among the readiness of teachers from science and technology and humanities backgrounds regarding the use of e-content for the teaching with respect to the self-environment.

4.8.5.3 Variable wise Readiness of the Teachers regarding the usage of e-content for teaching in relation to the "Department" with reference to Environmental Aspect

Table 44: Percentage Distribution of the selected Teachers according to readiness for usage of e-content for teaching in relation to the selected variables with reference to the "Department" under the Environmental Aspect

(n=300)

Environment Aspect – Department readiness			
Variable	**Category**	**Less readiness (%)**	**More readiness (%)**
Age	Young	43.0	57.0
	Old	52.6	47.4
Job-status	Permanent	46.0	54.0
	Temporary	48.3	51.7
Area of Specialization	Sciences & Technology	49.5	50.53
	Humanities	56.5	43.5
	Social Science	34.1	65.9
Teaching Experience	Less Experience	44.6	55.4
	More Experience	51.2	48.4
Computer and Internet Usage	Low Usage	55.0	45.0
	High Usage	35.8	64.2
Computer & internet related Technical competency	Low Competency	66.9	33.1
	High Competency	32.9	67.1
Perceptions towards Technology	Unfavorable Perceptions	44.6	55.4
	Favorable Perceptions	50.7	49.3
Knowledge regarding e-content	Low Knowledge	45.6	54.4
	High Knowledge	48.2	51.8
Interest in e-content for teaching	Less Interest	61.6	38.4
	More Interest	32.9	67.1

The above table 44 reveals that almost sixty percent i.e. (57.0%) of the young teachers had more readiness for using e-content whereas (52.6%) of old teachers had less readiness for using e-content in relation to "Department" in Environment aspect.

A little more than fifty percent i.e. (54%) of the selected permanent teachers had more readiness for using e-content whereas selected temporary teachers i.e. (51.7%) had more readiness for using e-content in relation with Department under the environment aspect.

Table 44 also reveals the readiness of the selected teachers regarding usage of e-content with the area of specialization in relation with "Department" under the Environment aspect, it was observed that the teachers from Science and Technology (50.53%) had a more level of readiness for the usage of e-content in teaching whereas teachers from humanities had a less level of readiness i.e. (56.5%) for using e-content for teaching and majority i.e. (65.9%) teachers from the area of Social Science had more readiness for the usage of e-content for teaching in relation with "Department" under the Environment Aspect.

Table 44 also reveals that the teachers with less teaching experience showed more readiness i.e. (55.4%) for using the e-content in relation with "Department" under the environment aspect whereas it was observed that the teachers with more teaching experience had less readiness i.e. (51.2%) for using the e-content in relation with "Department" under the Environment aspect. It was also revealed that the majority of the teachers who used less of computers and internet showed less readiness i.e. (55%) for using e-content in teaching in relation with "Department" under the environment aspect whereas the majority i.e. (64.2%) of the selected teachers who used more of computers and internet showed more readiness towards usage of e-content in teaching in relation with "Department" under the Environment aspect.

The majority of the selected teachers with low competency related to computer and internet showed less readiness towards usage of e-content i.e. (66.9%) whereas a majority i.e. (67.1%) of the selected teachers with high competency in relation with computers and internet had more readiness regarding usage of e-content in teaching in relation with "Department" under the environment aspect.

Table 44 also revealed that a little less than the majority i.e. (55.4%) of the selected teachers who had unfavorable perceptions towards technology showed more readiness towards usage of e-content for teaching whereas half of the teachers i.e. (50.7%) had favorable perceptions towards technology had less readiness towards usage of e-content for teaching in relation with "Department" under the environment aspect

The table also reveals that the teachers with low knowledge regarding e-content had more readiness i.e. (54.4%) in relation with "Department" under the environment aspect regarding their readiness in the usage of e-content for teaching whereas the majority of the teachers with high knowledge regrading e-content i.e. (51.8%) had more readiness for the same.

The findings revealed that a majority of teachers i.e. (61.6%) who had less interest in e-content for teaching had less readiness towards usage of e-content for teaching in relation with "Department" under the environment aspect whereas the majority i.e. (67.1%) of the teachers with more interest in e-content for teaching had more readiness for the same.

Figure 34: Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Age" variable with reference to the Environmental Aspect

(n=300)

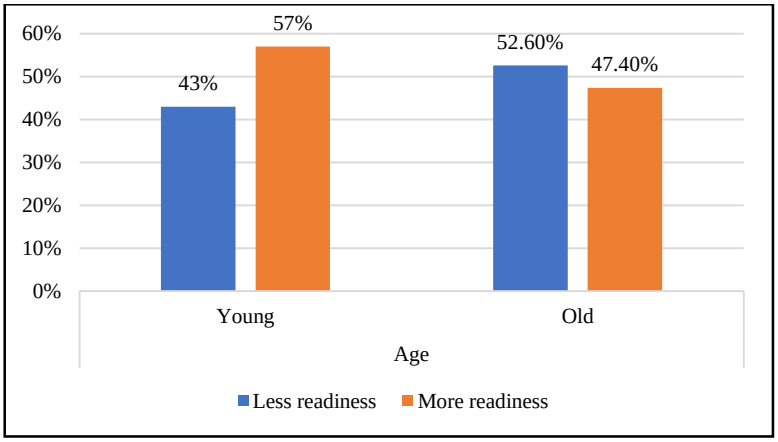


Figure 35: Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Job Status" variable with reference to the Environmental Aspect

(n=300)

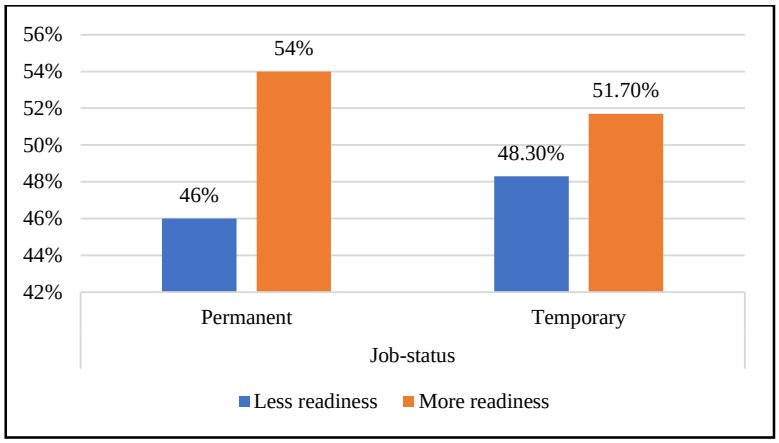


Figure 36: Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Area of Specialization" variable with reference to the Environmental Aspect

(n=300)

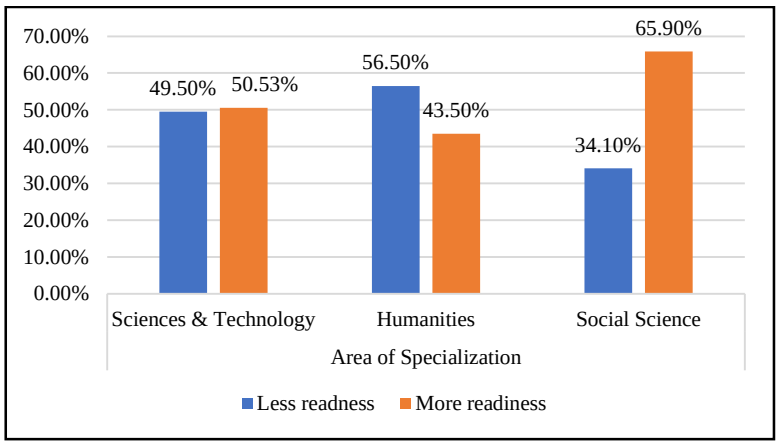


Figure 37: Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Teaching Experience" variable with reference to the Environmental Aspect

(n=300)

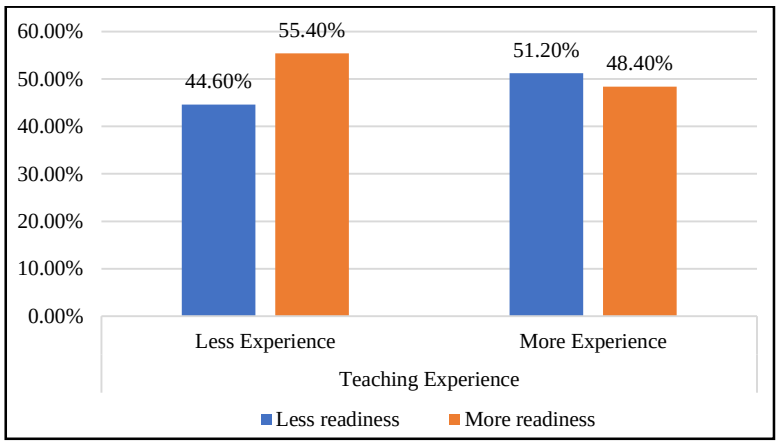


Figure: 38 Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Computer and internet Usage" variable with reference to the Environmental Aspect

(n=300)

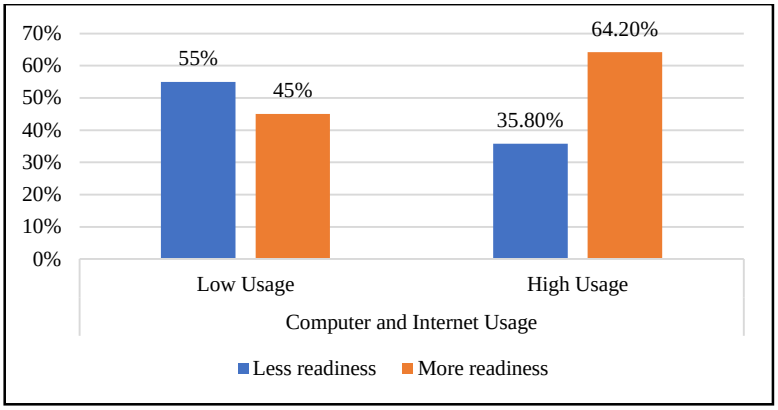


Figure 39: Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Computer and internet related technical competency" variable with reference to the Environmental Aspect

(n=300)

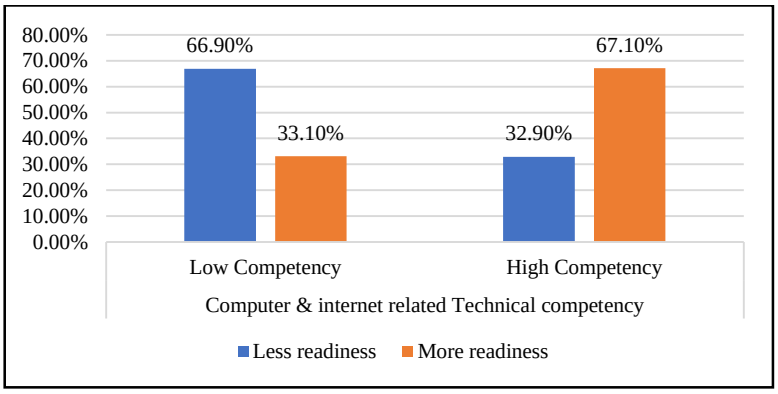


Figure: 40 Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Perception towards Technology" variable with reference to the Environmental Aspect

(n=300)

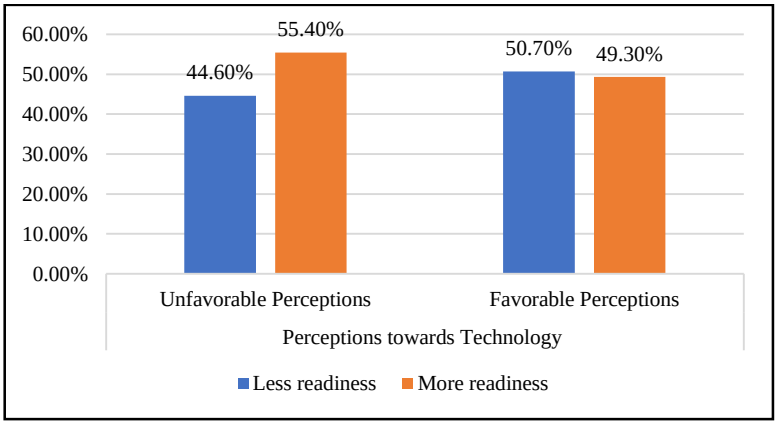


Figure 41: Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Knowledge regarding e-content" variable with reference to the Environmental Aspect

(n=300)

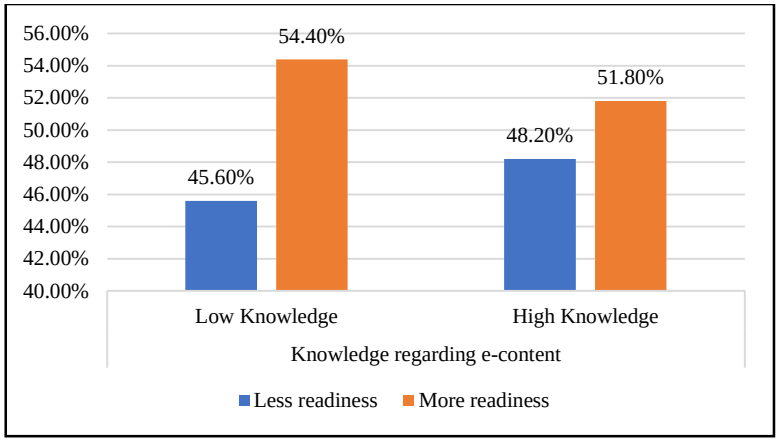
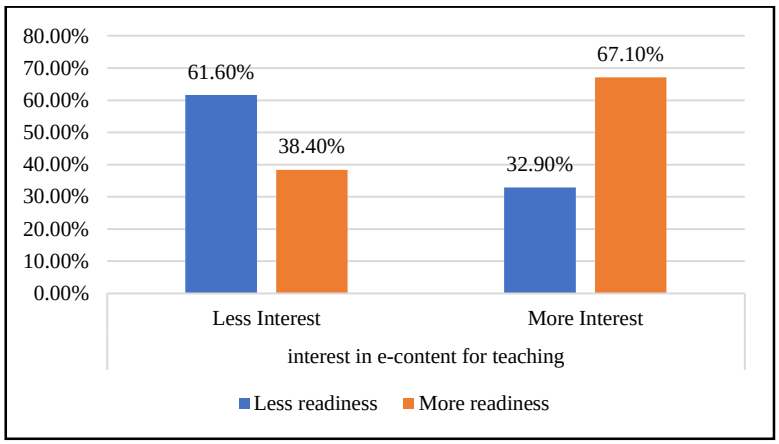


Figure: 42 Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Interest in e-content for Teaching" variable with reference to the Environmental Aspect

(n=300)



4.8.5.4 Variable wise Differences in the Readiness of the teachers regarding the usage of e-content for teaching in relation to "Department" with reference to Environmental Aspect

Table 45: t- value showing the Variable wise Differences in the Readiness of the teachers regarding the usage of e-content for teaching in relation to "Department" with reference to Environmental Aspect

(n=300)

Variable	Category	N	Mean	Std. Deviation	*t-value*	*P-value*
Age	Young	165	54.6	12.7	0.3	0.759
	Old	135	54.2	12.0	0.3	
status of Job	Permanent	124	54.9	12.5	0.55	0.585
	Temporary	176	54.1	12.3	0.55	
Teaching Experience	Less Experience	177	54.6	12.4	0.38	0.706
	More Experience	123	54.1	12.3	0.38	
Computer & Internet Usage	Low Usage	180	52.1	12.9	4.04	*0.000 **Significant**
	High Usage	120	57.9	10.7	4.19	
Computer & internet related Technical competency	Low Competency	127	51.12	9.68	4.06	*0.00 **Significant**
	High Competency	173	56.83	13.52	4.27	
Perceptions towards Technology	Unfavorable Perceptions	166	54.86	11.84	0.70	0.485
	Favorable Perceptions	134	53.86	12.99	0.69	
Knowledge regarding e-content	Low Knowledge	103	55.72	11.43	1.32	0.186
	High Knowledge	197	53.73	12.79	1.37	
interest in e-content for teaching	Less Interest	151	50.01	12.49	6.65	*0.000 **Significant**
	More Interest	149	58.88	10.50	6.66	

Above table 45 indicates that the Readiness in relation to "Department" under the Environment aspect of the selected teachers of The Maharaja Sayajirao University of Baroda did not differ significantly according to the selected variable namely Age, Status of Job, Teaching Experience, Perception towards technology and knowledge regarding e-content for teaching.

Thus, the null hypothesis stating that there will be no significant differences in Readiness in relation to the "Department" under the Environment aspect regarding Usage of e-content for the teaching of the selected teachers with reference to the above-mentioned variables was accepted.

The above table also indicates that the Readiness in relation to "Department" under the environment aspect of the selected teachers of The Maharaja Sayajirao University of Baroda differed significantly with variable**s** Computer and Internet usage, Computer and internet related technical competencies, and Interest in e-content for teaching.

Thus, the null hypotheses stating that there will be no significant difference in Readiness in relation to "Department" under the Environment aspect of the Selected teachers regarding usage of e-content for teaching with the selected variables Computer and Internet usage, Computer and internet related technical competencies, and intrest in e-content for teaching were rejected.

The teachers who had higher computer and internet usage and higher computer and Internet competency and with more interest in the e-content had significant differences with respect to their readiness for using content for teaching in relation to departments environment in comparison to their counterparts.

The probable reason for such finding could be that teachers with more computer in internet usage and high competency related to computer and internet may have been appreciated in the department by colleagues' administrators etc. The department's technology-related culture like students and teachers, keen interest in using technology, readiness to participate in the workshop may be the key factors. Engholm and McLean (2001) stated that, in order to ensure a successful e-learning experience, organizational culture is to be supportive of learning, self-directed learning is to be followed, training and development are to be highly observed, e-learning is to

be aligned well with the organization's goals, and the organization is to be managed as a learning organization to support and encourage learning. Conferences related to technology may have motivated and made the teachers ready to use the e-content for the teaching. Oye et al. (2011) point out that aspects such as electricity, awareness related to e-content usage and training of staff on the use of ICTs, motivation, bandwidth, and Internet connectivity impacted e-learning development at the university level in Nigeria.

Table 46: Analysis of Variance (ANOVA) showing the Variable wise Differences in the Readiness of the Teachers regarding the usage of e-content for teaching in relation to "Department" with reference to environmental aspect with respect to the area of specialization

(n=300)

Source of variance	Sum of Squares	df	Mean Square	F-value	Sig.
Between Groups	2460.628	2	1230.314	8.462	.000
Within Groups	43182.118	297	145.394		

It can be seen from the above table that there were significant differences in the readiness of the teachers regarding the use of e-content for their teaching in relation to the Department with reference to the Environment with respect to their Area of Specialization.

Therefore, the Null Hypothesis stating that there will be no significant differences in the readiness of the teachers in relation to the Department with reference to the Environment with respect to their area of specialization was not accepted

Table 47: Tukey's HSD comparison for the Readiness of the Teachers regarding the Usage of e-content for their teaching in relation to "Department" with reference to Environmental aspect with respect to the area of specialization.

Area of Specialization		Mean	Mean Difference (I-J)	Std. Error	Sig.
Sciences & Technology	Humanities	54.83	3.84094	1.66907	.057
	Social Science		-3.17931	1.74278	.163
Humanities	Sciences & Technology	50.99	-3.84094	1.66907	.057
	Social Science		-7.02025*	1.71580	.000
Social Science	Sciences & Technology	58.01	3.17931	1.74278	.163
	Humanities		7.02025*	1.71580	.000
	*. The mean difference is significant at the 0.05 level.				

The above table shows that there was a significant difference among the readiness of the teachers from social science and humanities regarding the use of e-content for their teaching in relation to "Department" with reference to the Environmental aspect.

The teachers who belonged to the social science category (58.01) had highly significant mean differences than their counterparts from humanities backgrounds (50.99, p=.000).

It means that Department with reference to the Environmental aspect does have an influence on the readiness of teachers for the use of e-content for teaching who belonged to the social science category.

However, no significant differences were observed among the readiness of the teachers who belonged to science and technology and humanities background and between science and technology and social sciences regarding the usage of e-content for the teaching with respect to the department with reference to Environmental aspect.

4.8.6 *Readiness of the Teachers regarding the usage of e-content for teaching in relation to Financial Aspect*

4.3.6.1 Variable wise Readiness of the Teachers regarding the usage of e-content for teaching with reference to Financial aspect

Table 48: Percentage Distribution of the selected Teachers according to their readiness for usage of e-content for teaching in relation to the selected variables with reference to the Financial aspect

(n=300)

Financial Aspect Readiness			
Variable	**Category**	**Less readiness (%)**	**More readiness (%)**
Age	Young	40.6	59.4
	Old	44.4	55.6
Job Status	Permanent	41.9	58.1
	Temporary	42.6	57.4
Area of Specialization	Sciences & Technology	43.6	56.4
	Humanities	56.5	43.5
	Social Science	24.2	75.8
Teaching Experience	Less Experience	41.8	58.2
	More Experience	43.1	56.9
Computer and Internet Usage	Low Usage	40.6	59.4
	High Usage	45.0	55.0
Computer & internet related Technical competency	Low Competency	52.8	47.2
	High Competency	34.7	65.3
Perceptions towards Technology	Unfavorable Perceptions	42.2	57.8
	Favorable Perceptions	42.5	57.5
Knowledge regarding e-content	Low Knowledge	53.4	46.6
	High Knowledge	36.5	63.5
interest in e-content for teaching	Less Interest	54.3	45.7
	More Interest	30.2	69.8

Table 48 revealed that Little less than a majority (59.4%) of the young teachers had more readiness for using e-content whereas little less than half of the older teachers i.e (44.4%) had less readiness for using e-content in relation to the Financial aspect. A little less than majority (58.1%) of the selected permanent teachers had more readiness for using e-content whereas little more than forty percent of the selected temporary teachers (42.6%) had less readiness for using e-content in relation to the Financial aspect.

The readiness of the selected teachers regarding usage of e-content with the area of specialization under the Financial aspect, it was observed that almost a similar percentage of the teachers both from Science and Technology (56.4%) and Humanities (56.5%) had contrasting levels of readiness as science technology had more and humanities had less level of readiness for the usage of e-content in teaching whereas very less of the teachers(24.2%) of the teachers from the area of Social Science had Less readiness for the usage of e-content for teaching under the Financial Aspect.

The teachers with less teaching experience showed more readiness (58.2%) in their readiness in using the e-content under the Financial aspect whereas it was observed that the teachers with more teaching experience had less readiness (43.1%) in their readiness in using the e-content under the Financial aspect.

It was also revealed that little more than the majority of the teachers who used less of computers and internet showed more readiness i.e. (59.4%) for using e-content in teaching under the Financial aspect whereas a little more than forty i.e. (45.0%) of the selected teachers who used more of computers and internet showed less readiness towards usage of e-content in teaching under the Financial aspect.

Little less than majority of the selected teachers with low competency related to computer and internet showed less readiness towards usage of e-content i.e. (52.8%) whereas a majority i.e. (65.3%) of the selected teachers with high competency in relation with computers and internet had more readiness regarding usage of e-content in the teaching under the Financial aspect.

Table 48 revealed that Little less than a majority (57.8%) of the selected teachers who had unfavourable perceptions towards technology showed more readiness towards usage of e-content for teaching whereas a little more than forty (42.5%) of the selected teachers who had favourable perceptions towards technology had less readiness towards usage of e-content for teaching under the Financial aspect.

The above table also revealed that the teachers with low knowledge regarding e-content had less readiness (53.4%) under the Financial aspect regarding their readiness in the usage of e-content for teaching whereas the majority of the teachers with high knowledge regarding e-content (63.5%) had more readiness.

The findings revealed that a majority of teachers i.e. (54.3%) who had less interest in e-content for teaching had less readiness towards usage of e-content for teaching under the Financial aspect whereas a high percentage of teachers with more interest in e-content for teaching had more readiness towards usage of e-content for teaching.

Figure 43: Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Age" variable with reference to the Financial Aspect

(n=300)

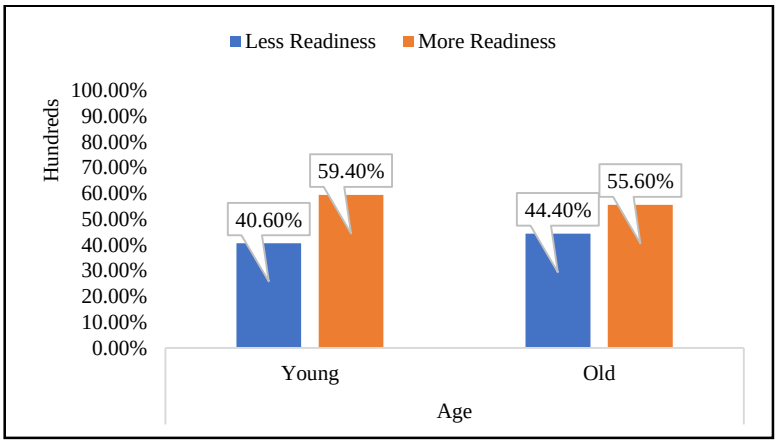


Figure 44: Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Job Status" variable with reference to the Financial Aspect

(n=300)

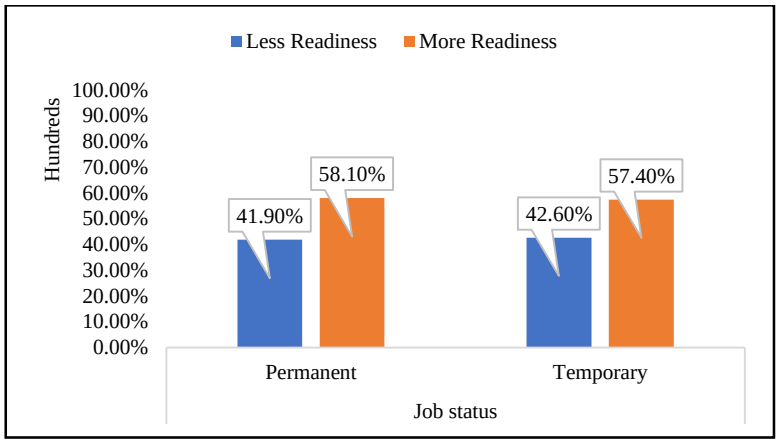


Figure 45: Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Area of Specialization" variable with reference to the Financial Aspect

(n=300)

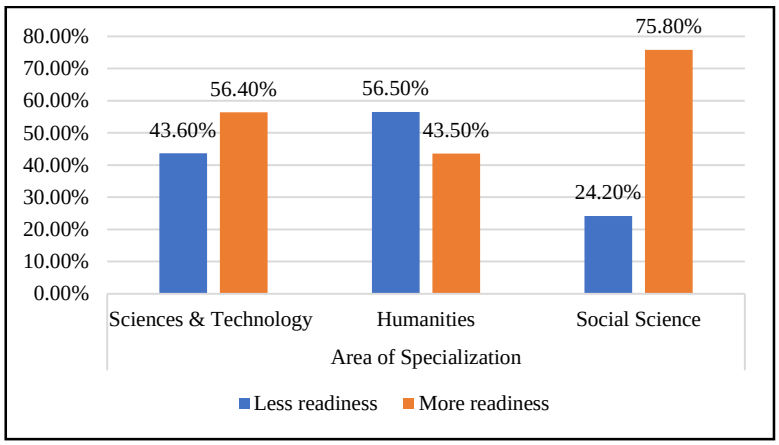


Figure 46: Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Teaching Experience" variable with reference to the Financial Aspect

(n=300)

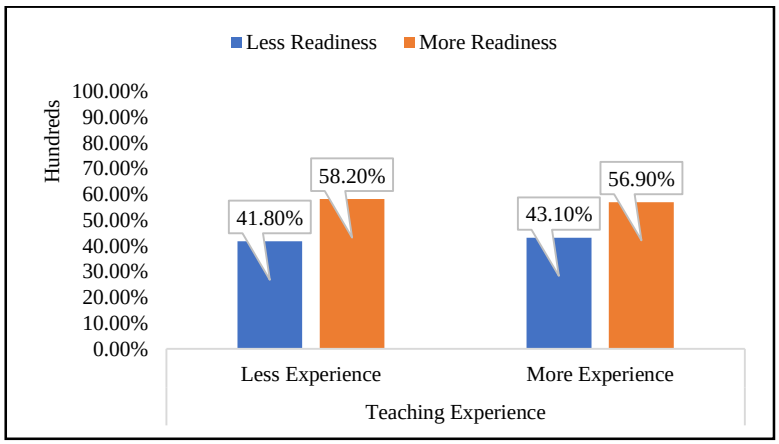


Figure 47: Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Computer and internet Usage" variable with reference to the Financial Aspect

(n=300)

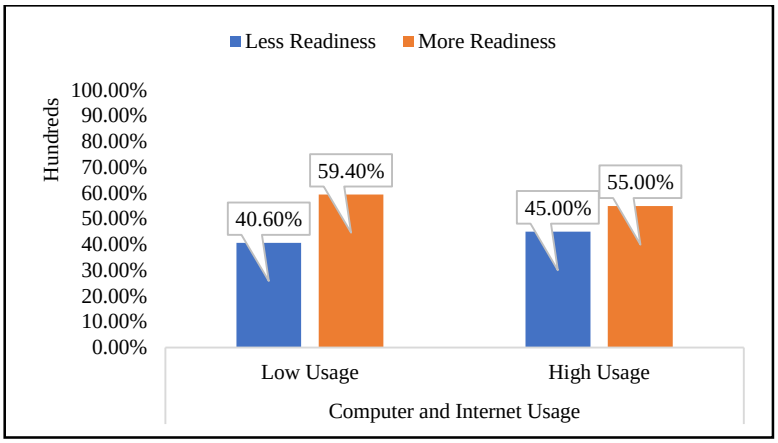


Figure 48: Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Computer and internet related technical competency" variable with reference to the Financial Aspect

(n=300)

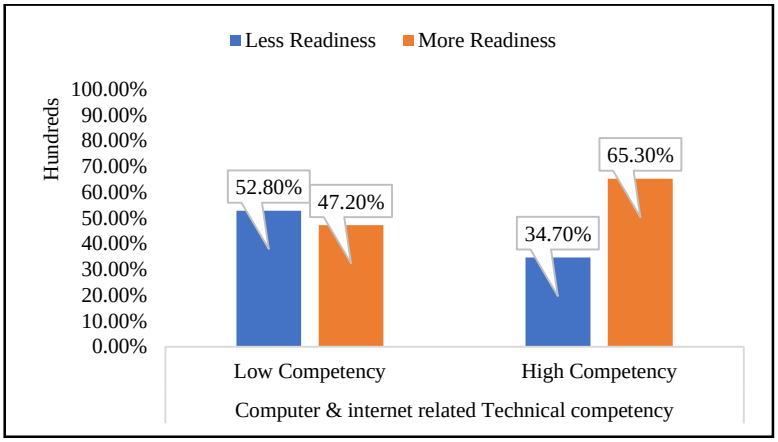


Figure 49: Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Perception towards Technology" variable with reference to the Financial Aspect

(n=300)

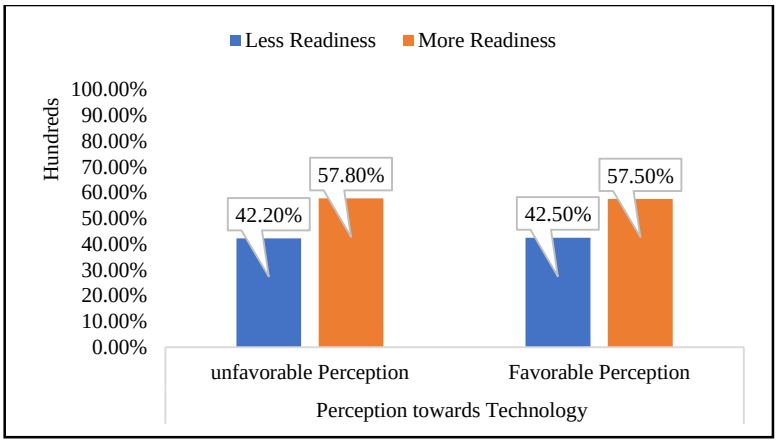


Figure 50: Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Knowledge regarding e-content" variable with reference to the Financial Aspect

(n=300)

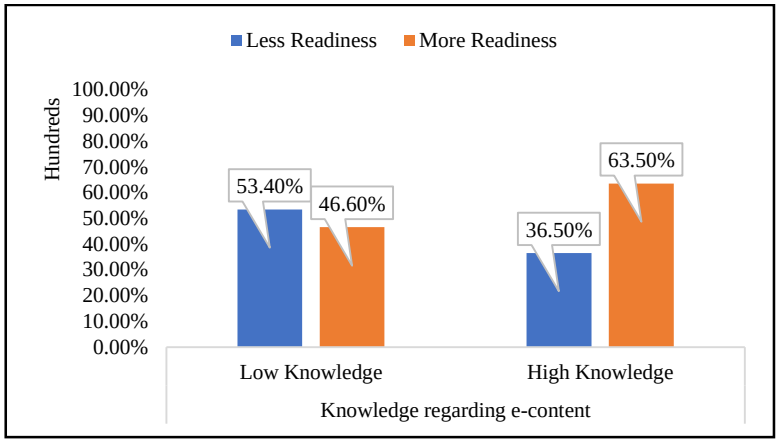
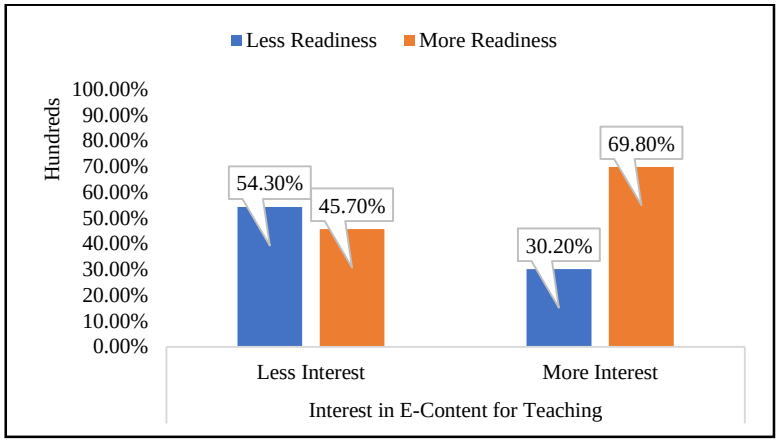


Figure 51: Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Interest in e-content for Teaching" variable with reference to the Financial Aspect

(n=300)



4.8.6.2 Variable wise Differences in the Readiness of the Teachers regarding the usage of e-content for teaching with reference to Financial aspect

Table 49: t- value showing the Variable wise Differences in the Readiness of the Teachers regarding the usage of e-content for teaching with reference to Financial aspect

(n=300)

Variable	Category	N	Mean	Std. Deviation	*t-value*	*P-value*
Age	Young	165	33.3	5.6	1.0	0.301
	Old	135	32.6	6.5	1.0	
Status of Job	Permanent	124	33.3	6.8	0.8	0.428
	Temporary	176	32.8	5.5	0.8	
Teaching Experience	Less Experience	177	32.8	5.9	0.7	0.462
	More Experience	123	33.3	6.2	0.7	
Computer & Internet Usage	Low Usage	180	33.3	6.3	1.1	0.268
	High Usage	120	32.5	5.7	1.1	
Computer & internet related Technical competency	Low Competency	127	31.78	5.97	3.0	**Significant**
	High Competency	173	33.90	5.97	3.0	
Perceptions towards Technology	Unfavorable Perceptions	166	33.36	6.53	1.1	0.250
	Favorable Perceptions	134	32.55	5.39	1.1	
Knowledge regarding e-content	Low Knowledge	103	31.34	5.40	3.5	**Significant**
	High Knowledge	197	33.87	6.20	3.5	
Interest in e-content for teaching	Less Interest	151	31.99	5.80	2.95	**Significant**
	More Interest	149	34.03	6.14	2.95	

Above table 49 indicates that the Readiness in relation to the Financial aspect of the selected teachers of The Maharaja Sayajirao University of Baroda did not differ significantly according to the selected variable namely Age, Status of Job, Teaching Experience, Perception towards technology, Computer and Internet usage.

Thus, the null hypotheses stating that there will be no significant differences in Readiness under the Financial aspect regarding Usage of e-content for the teaching of the selected teachers with reference to the above-mentioned variables were accepted.

Above table 49 also indicates that the Readiness in relation to the Financial aspect of the selected teachers of The Maharaja Sayajirao University of Baroda differed significantly with variable**s** Computer and internet related technical competencies and Knowledge regarding e-content, interest in e-content for teaching.

Thus, the null hypotheses stating that there will be no significant difference in Readiness under the Financial aspect of the Selected teachers regarding usage of e-content for teaching with the selected variables Computer and internet related technical competencies, and knowledge regarding e-content, interest in e-content for teaching were rejected.

The teachers who had high competency related to computer and internet and also those who had high knowledge related to e-content had significantly different means scores related to their readiness with reference to the financial aspect for the use of e-content for the teaching in comparison to their counterparts.

The probable reasons for such finding could be that teachers with good competency skills related to computer and internet may be highly motivated to use e-content for the teaching and due to this they may be financially ready, also to attend workshops, conferences, training programmes related to the e-content usage. They may also invest their money in designing the e-content for their subjects or courses. Appana (2008) stressed that administrative support and sufficient allocation of revenues are necessary in order to allow faculty members to convert conventional programmes to online courses.

By offering financial assistance to university professors, universities can assist their professors in developing their skills in the use of various e-resources,

software, and hardware for converting their course content to digital content, and so on. This viewpoint was also expressed in a study by, Conrad and Munro (2008) stated that the e-Learning training and usage will definitely lead to higher efficacy beliefs about e-Learning technology, which eventually inspire faculty members to adopt e-learning. Thus, financial support is important for integrating teaching through e-content in the university.

Similarly, if a teacher has high knowledge regarding the e-content then probably one is inclined to use it. For that matter, the teacher may be mentally, physically ready, and maybe ready to dedicate some budget for pursuing this aspect further. The university teacher's job has promotions at various stages. Teachers are required to be completely equipped with the subject matter, educational policies, research, and other educational tools required for the profession. For this, the evaluation criteria designed by University Grants Commission is such that teachers have to prove themselves on parameters like the international/national publications research credentials, projects for community outreach, the designing of various technological tools for use in teaching and research. Thus, the teachers may be encouraged to be financially ready to use the e-content for their teaching.

Table 50: Analysis of Variance (ANOVA) showing the Variable wise Differences in the Readiness of the Teachers regarding the usage of e-content for teaching with reference to Financial aspect

Source of variance	Sum of Squares	df	Mean Square	F-value	Sig.
Between Groups	842.367	2	421.183	12.378	.000 *sig.
Within Groups	10105.633	297	34.026		

It can be seen from the above table that there were significant differences in the readiness of the teachers with reference to the financial aspect with respect to their areas of specialization.

Therefore, the null hypothesis stating that there will be no significant differences in the readiness of the teachers regarding the use of e-content for the teaching with reference to the financial aspect was not accepted.

Table 51: Tukey's HSD comparison for the Readiness of the teachers regarding the Usage of e-content for their teaching in relation to Financial aspect with respect to the area of specialization

Area of Specialization		Mean	Mean Difference (I-J)	Std. Error	Sig.
Sciences & Technology	Humanities	32.25	.655	.807	.696
	Social Science		-3.258*	.843	.000
Humanities	Sciences & Technology	31.59	-.655	.807	.696
	Social Science		-3.913*	.830	.000
Social Science	Sciences & Technology	35.51	3.258*	.843	.000
	Humanities		3.913*	.830	.000
	*. The mean difference is significant at the 0.05 level.				

The above table shows that there were significant differences among is the readiness of the teachers regarding the usage of e-content for the teaching with respect to financial aspects according to their area of specialization.

The teachers belonging to the social science background (35.51) had highly significant mean differences than their counterparts from science and technology (32.25, p=.000) and teachers from humanities (31.59, p=.000).

It means that the financial aspect does have an influence on the readiness of the teachers in the usage of e-content for the teaching who belonged to social science background. However, no significant differences were found amongst the readiness of the teachers with respect to their financial aspect for the usage of e-content for teaching for the teachers who were from science and technology and humanities backgrounds.

4.8.7 *Readiness of the Teachers regarding the usage of e-content for teaching in relation to Technology Aspect*

4.8.7.1 Variable wise Readiness of the Teachers regarding the usage of e-content for teaching in relation to "self" with reference to Technology aspect

Table 52: Percentage Distribution of the selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the selected variables with reference to the Technology aspect

(n=300)

Technology Aspect – Self Readiness			
Variable	**Category**	**Less readiness (%)**	**More readiness (%)**
Age	Young	43.6	56.4
	Old	44.4	55.5
Job Status	Permanent	42.7	57.3
	Temporary	44.9	55.1
Area of Specialization	Science & Technology	42.6	57.4
	Humanities	50.9	49.1
	Social Science	37.4	62.6
Teaching Experience	Less Experience	42.9	57.1
	More Experience	45.5	54.5
Computer & Internet Usage	Low Usage	47.8	52.2
	High Usage	38.3	61.7
Computer & internet related Technical competency	Low Competency	59.8	40.2
	High Competency	32.4	67.4
Perceptions towards Technology	Unfavorable Perceptions	50.6	49.4
	Favorable Perceptions	35.8	64.2
Knowledge regarding e-content	Low Knowledge	50.5	49.5
	High Knowledge	40.6	59.4
Interest in e-content for teaching	Less Interest	58.9	41.1
	More Interest	28.9	71.1

Table 52 revealed that little more than half i.e. (56.4%) of the young teachers had more readiness for using e-content whereas (44.4%) of the old teachers had less readiness for using e-content in relation to self in Technology aspect.

More than fifty percent (57.3%) of the selected permanent teachers had more readiness for using e-content whereas little more than forty percent of the selected temporary teachers (55.1%) had more readiness for using e-content in relation with Self under the Technology aspect. Table 52 also reveals The readiness of the selected teachers regarding usage of e-content with the area of specialization in relation with "self" under the Technology aspect, it was observed that almost a similar percentage of the teachers both from Science and Technology (42.6%) and Humanities (50.9%) had less level of readiness for the usage of e-content in teaching whereas as high as sixty percent (62.6%) of the teachers from the area of Social Science had more readiness for the usage of e-content for teaching.

Table 52 also reveals that the teachers with less teaching experience showed more readiness (57.1%) in their readiness in using the e-content in relation with "Self" under the Technology aspect whereas it was observed that the teachers with more teaching experience had less readiness (45.5%) in their readiness in using the e-content in relation with "Self" under the Technology aspect.

The teachers who used less of computers and internet showed a more readiness (52.2%) for using e-content in teaching in relation to "Self" under the Technology aspect whereas a little less than forty percent (38.3%) of the selected teachers who used more of computers and internet showed less readiness towards usage of e-content in teaching in relation with "Self" under the Technology aspect.

The selected teachers with low competency related to computer and internet showed less readiness towards usage of e-content (59.8%) whereas a majority (67.4%) of the selected teachers with high competency in relation with computers and internet had more readiness regarding usage of e-content in teaching in relation with "Self" under the Technology aspect.

Little more than half (50.6%) of the selected teachers who had unfavourable perceptions towards technology showed less readiness towards usage of e-content for teaching whereas a little more than sixty (64.2%) of the selected teachers who had favourable perceptions towards technology had more readiness towards usage of e-content for teaching in relation with "Self" under the Technological aspect

The teachers with less knowledge regarding e-content had less readiness i.e. (50.5%) in relation with "Self" under the Technology aspect regarding their readiness in usage of e-content for teaching whereas little less than a majority of the teachers with more knowledge regarding e-content i.e. (59.4%) had high readiness.

A little less than a majority of teachers (58.9%) who had less interest in e-content for teaching had less readiness towards usage of e-content for teaching in relation with "Self" under the Technology aspect as well as very less percentage of teachers with more interest in e-content for teaching had less readiness towards usage of e-content for teaching.

Figure 52: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Age" variable with reference to the Technology Aspect

(n=300)

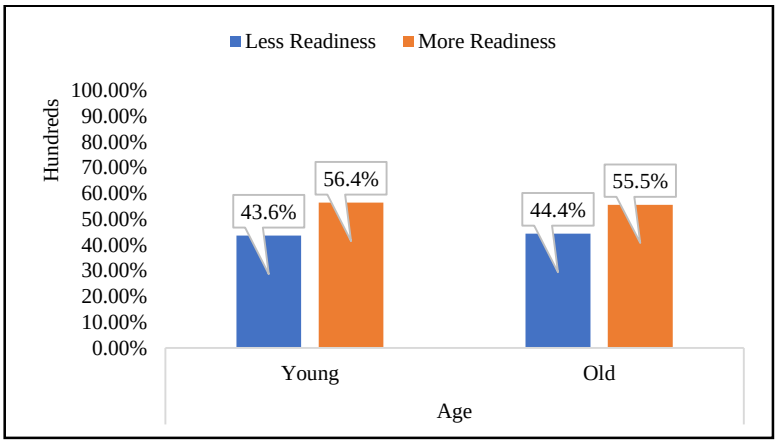


Figure 53: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Job Status" variable with reference to the Technology Aspect

(n=300)

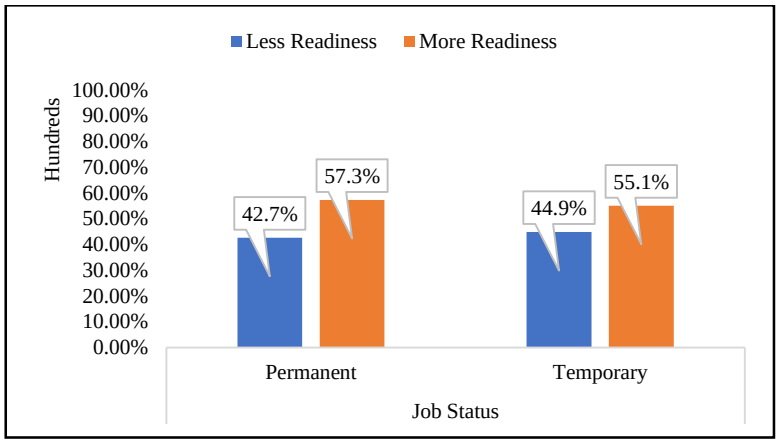


Figure 54: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Area of Specialization" variable with reference to the Technology Aspect

(n=300)

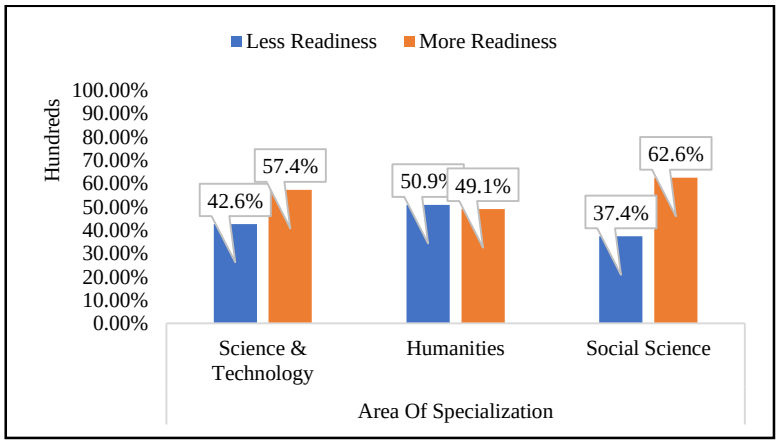


Figure 55: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Teaching Experience" variable with reference to the Technology Aspect

(n=300)

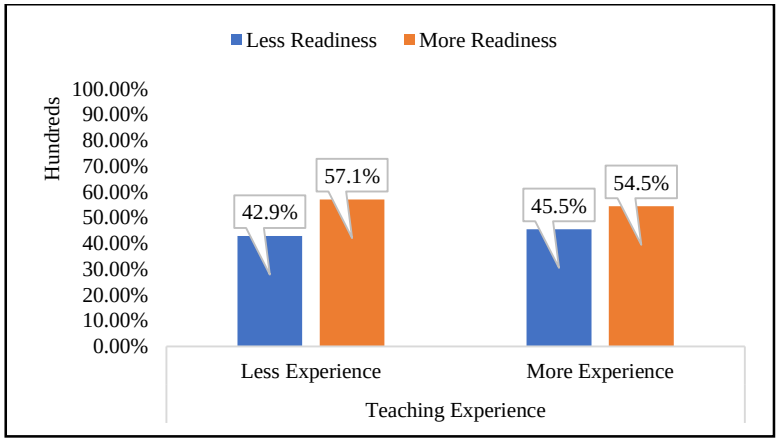


Figure 56: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Computer and internet Usage" variable with reference to the Technology Aspect

(n=300)

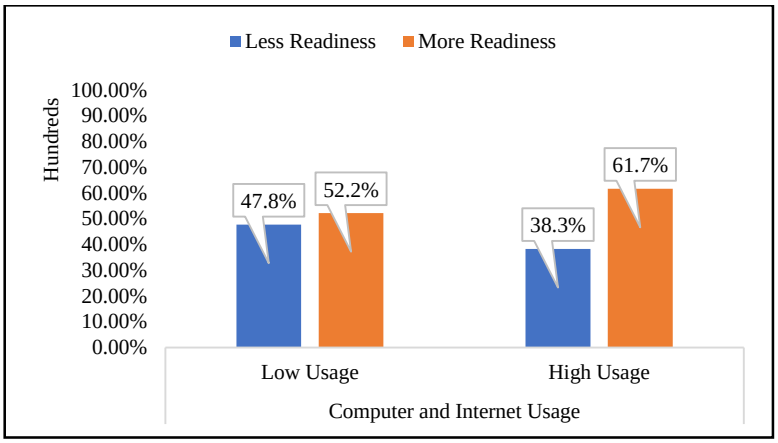


Figure 57: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Computer and internet related technical competency" variable with reference to the Technology Aspect

(n=300)

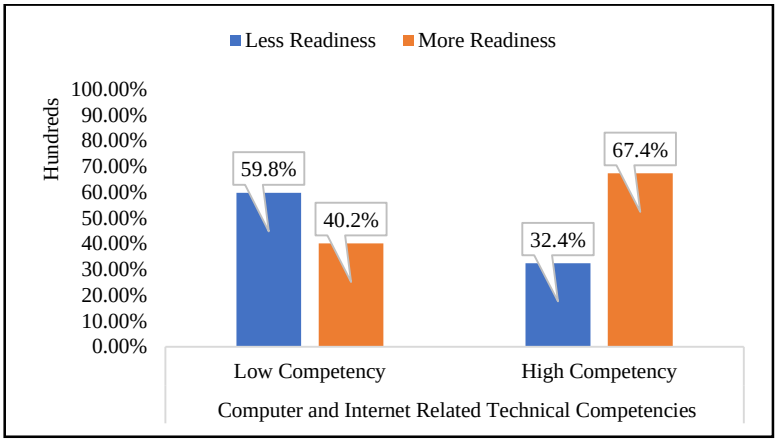


Figure 58: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Perception towards Technology" variable with reference to the Technology Aspect

(n=300)

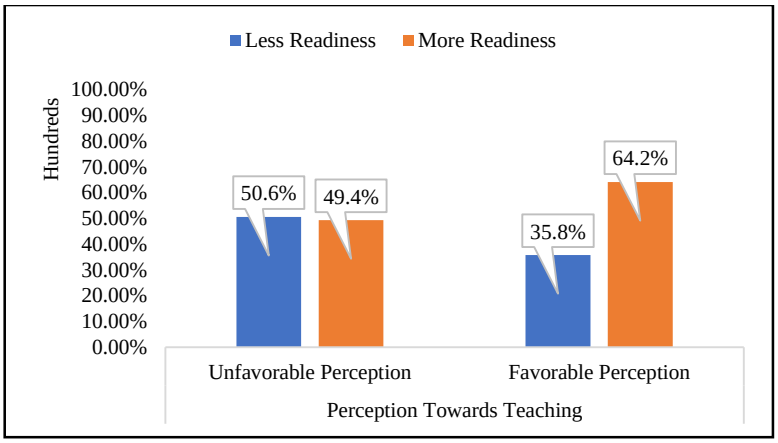


Figure 59: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Knowledge regarding e-content" variable with reference to the Technology Aspect

(n=300)

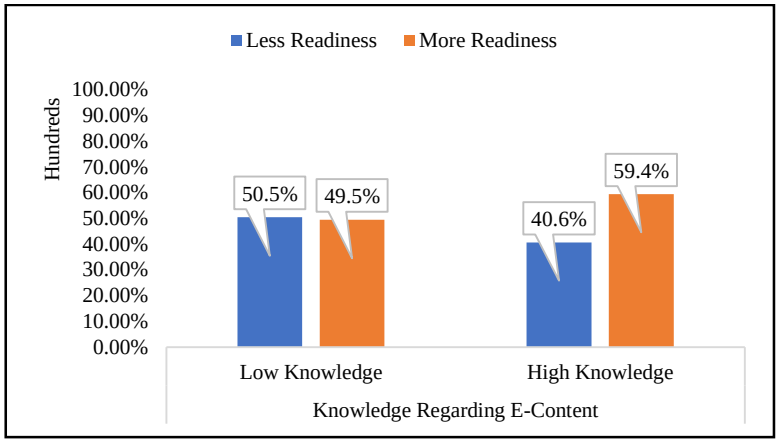
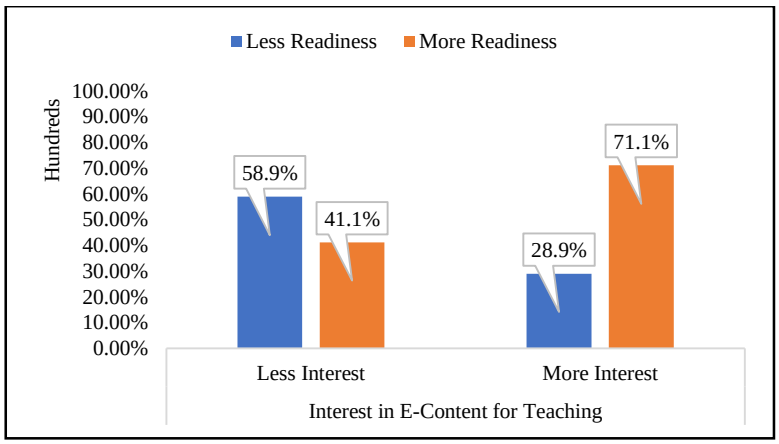


Figure 60: Percentage Distribution of selected Teachers according to their "self" readiness for usage of e-content for teaching in relation to the "Interest in e-content for Teaching" variable with reference to the Technology Aspect

(n=300)



4.8.7.2 Variable wise Differences in the Readiness of the teachers regarding the usage of e-content for teaching in relation to "self" with reference to Technology aspect

Table 53: t- value showing the Variable wise Differences in the Readiness of the teachers regarding the usage of e-content for teaching in relation to "self" with reference to Technology aspect

(n=300)

Variable	Category	N	Mean	Std. Deviation	*t-value*	*P-value*
Age	Young	165	27.4	3.8	0.68	0.544
	Old	135	27.1	4.0	0.61	
Job-status	Permanent	124	27.4	4.0	0.69	0.493
	Temporary	176	27.1	3.7	0.68	
Teaching Experience	Less Experience	177	27.2	3.8	0.39	0.696
	More Experience	123	27.4	3.9	0.39	
Computer & Internet Usage	Low Usage	180	26.8	3.9	2.55	*0.011 **Significant**
	High Usage	120	27.9	3.8	2.55	
Computer & internet related Technical competency	Low Competency	127	25.66	3.70	6.54	*0.00 **Significant**
	High Competency	173	28.42	3.55	6.50	
Perceptions towards Technology	Unfavorable Perceptions	166	26.84	3.98	2.09	*0.037 **Significant**
	Favorable Perceptions	134	27.77	3.64	2.11	
Knowledge regarding e-content	Low Knowledge	103	27.17	3.72	0.26	0.799
	High Knowledge	197	27.29	3.93	0.26	
Interest in e-content for teaching	Less Interest	151	26.08	3.52	5.57	*0.000 **Significant**
	More Interest	149	28.44	3.83	5.57	

Above table 53 indicates that the Readiness in relation to "Self" under the Technology aspect of the selected teachers of The Maharaja Sayajirao University of Baroda did not differ significantly according to the selected variable namely Age, Status of Job, Teaching Experience, and Knowledge regarding e-content for teaching.

Thus, the null hypotheses stating that there will be no significant differences in Readiness in relation to "Self" under the Technology aspect regarding Usage of e-content for the teaching of the selected teachers with reference to the above-mentioned variables were accepted.

The above table also indicates that the Readiness in relation to "Self" under the Technology aspect of the selected teachers of The Maharaja Sayajirao University of Baroda differed significantly with variable**s** Computer and Internet usage, Computer and internet related technical competencies, Perception towards technology, and Interest in e-content for teaching.

Thus, the null hypotheses stating that there will be no significant difference in Readiness in relation to "Self" under the Technology aspect of the selected teachers regarding usage of e-content for teaching with the above-selected variables were rejected.

The teachers who had higher usage of computer and internet, who had higher competencies related to computer and internet, and who had favourable perceptions towards technology had significant differences in their mean scores related to their readiness to use the e-content for the teaching with reference to self of technology aspect in comparison to their counterparts. Deborah and et al. (1998) emphasizes that technological competence also requires a transition from using the computer as an instructional delivery system to one using the computer as a learning tool. This finding was also supported by Mostert and Quinn (2009) found that the academic staff members in South Africa faced the challenges of introducing effective ways of engaging technology and therefore, there was a need for the professional development of lecturers to use ICT in teaching and learning. As a result, it is critical to provide technological support to teachers in order to boost their readiness to use e-content in the classroom.

Probable reasons for such findings could be teachers with higher technology use may have higher competencies related to technology and thus may have developed favourable perceptions towards it. These above-mentioned factors are interrelated. A person with good skills may have used those skills more and thus may have positive

perceptions towards it. Readiness for anything depends upon expertise, usage and favourable perceptions, and many other external factors.

A teacher who is technically capable may also dedicate more time to use it, especially for one's profession, thus may be technologically ready as far as one is concerned to use the e-content specifically for teaching.

Table 54: Analysis of Variance (ANOVA) showing the Variable wise Differences in the Readiness of the Teachers regarding the usage of e-content for teaching in relation to "Self" with reference to Technology aspect with respect to the area of specialization.

Source of variance	Sum of Squares	df	Mean Square	F value	Sig.
Between Groups	115.347	2	57.673	3.958	.020 *sig.
Within Groups	4327.400	297	14.570		

It can be seen from the above table that there were significant differences in the readiness of the teachers in relation to "self" with reference to the Technology aspect. Therefore, the null hypothesis stating that there will be no significant differences in the readiness of the teachers with reference to "self "technology with respect to their area of specialization was not accepted.

Table 55: Tukey's HSD comparison for the Readiness of the Teachers regarding the Usage of e-content for their teaching in relation to "self" with reference to Technology aspect with respect to the area of specialization

Area of Specialization		Mean	Mean Difference (I-J)	Std. Error	Sig.
Sciences & Technology	Humanities	27.98	1.480*	.528	.015
	Social Science		.640	.552	.479
Humanities	Sciences & Technology	26.50	-1.480*	.528	.015
	Social Science		-.841	.543	.270
Social Science	Sciences & Technology	27.25	-.640	.552	.479
	Humanities		.841	.543	.270
	*. The mean difference is significant at the 0.05 level.				

The above table shows that there was a significant difference amongst the readiness of the teachers from science and technologies and humanities regarding the use of e-content for the teaching in relation to "self" with reference to Technology aspect.

The teachers who belong to science and technology (27.98) had highly significant mean differences than their counterparts from humanities. (26.50, p=.015).

It means that the self-aspect of technology does have an influence on the readiness of teachers for the use of e-content for teaching who belong to the science and technology category.

However, no significant differences were observed among the readiness of the teachers who belonged to science and technology and social sciences and also amongst the teachers from science & technology and humanities regarding the use of e-content for the teaching with respect to the self-technology aspect.

4.8.7.3 Variable wise Readiness of the Teachers regarding the usage of e-content for teaching in relation to the "department" with reference to Technology aspect

Table 56: Percentage Distribution of the selected Teachers according to their readiness for usage of e-content for teaching in relation to the selected variables in relation to the "Department" with reference to the Technology aspect

(n=300)

Technology Aspect – Department Readiness			
Variable	**Category**	**Less readiness (%)**	**More readiness (%)**
Age	Young	53.9	46.1
	Old	57.8	42.2
Job-status	Permanent	53.2	46.8
	Temporary	57.4	42.6
Area Specialization	Sciences & Technology	59.4	40.6
	Humanities	68.5	31.5
	Social Science	36.3	63.7
Teaching Experience	Less Experience	56.5	43.5
	More Experience	54.5	45.5
Computer & Internet Usage	Low Usage	57.8	42.2
	High Usage	52.5	47.5
Computer & internet related Technical competency	Low Competency	66.9	33.1
	High Competency	49.1	52.6
Perceptions towards Technology	Unfavorable Perceptions	53.0	47.0
	Favorable Perceptions	59.0	41.0
Knowledge regarding e-content	Low Knowledge	60.2	39.8
	High Knowledge	53.3	46.7
Interest in e-content for teaching	Less Interest	63.6	36.4
	More Interest	47.7	52.3

Table 56 revealed that Little less than fifty-five percent (53.9%) of the young teachers had less readiness for using e-content whereas less than half of the old teachers (42.2%) had more readiness for using e-content in relation to "Department" in Technological aspect.

It was revealed from the above table that more than forty percent (46.8%) of the selected permanent teachers had more readiness for using e-content whereas almost majority of the selected temporary teachers (57.4%) had less readiness for using e-content in relation with Department under the Technology aspect. Table 56 also revealed The readiness of the selected teachers regarding usage of e-content with the area of specialization in relation with "Department" under the Technology aspect, it was observed that almost a similar percentage of the teachers both from Science and Technology and Humanities had a more level of readiness for the usage of e-content in teaching whereas little less than forty percent of the teachers (36.3%) of the teachers from the area of Social Science had less readiness for the usage of e-content for teaching in relation with "Department" under the Technology Aspect.

The above table reveals that the teachers with less teaching experience showed less readiness (56.5%) in their readiness in using the e-content in relation with "Department" under the Technology aspect whereas it was observed that the teachers with more teaching experience had less readiness (54.5%) in their readiness in using the e-content in relation with "Department" under the Technology aspect.

Little less than a majority of the teachers who used less of computers and internet showed less readiness (57.8%) for using e-content in teaching in relation with "Department" under the Technology aspect whereas (52.5%) of the selected teachers who used more of computers and internet showed less readiness towards usage of e-content in teaching in relation with "Department" under the Technology aspect.

More than majority of the selected teachers with low competency related to computer and internet showed less readiness towards usage of e-content (66.9%) whereas little more than half (52.6%) of the selected teachers with high competency in relation with computers and internet had more readiness regarding usage of e-content in teaching in relation with "Department" under the Technology aspect.

Little more than half (53%) of the selected teachers who had unfavourable perceptions towards technology showed less readiness towards usage of e-content for teaching whereas a little more than forty percent (41%) of the selected teachers who had favourable perceptions towards technology had more readiness towards usage of e-content for teaching in relation with "Department" under the Technology aspect.

Table 56 also reveals that the Majority of the teachers with low knowledge regarding e-content had less readiness (60.2%) in relation with “Department” under the Technology aspect regarding their readiness in the usage of e-content for teaching whereas little less than half of the teachers with high knowledge regading e-content (46.7%) had more readiness.

The findings reveal that a majority of teachers (63.6%) who had less interest in e-content for teaching had less readiness towards usage of e-content for teaching in relation with “Department” under the Technology aspect whereas little than fifty percent (52.3%) of teachers with more interest in e-content for teaching had more readiness towards usage of e-content for teaching.

Figure 61: Percentage Distribution of selected Teachers according to their “Department” readiness for usage of e-content for teaching in relation to the “Age” variable with reference to the Technology Aspect

(n=300)

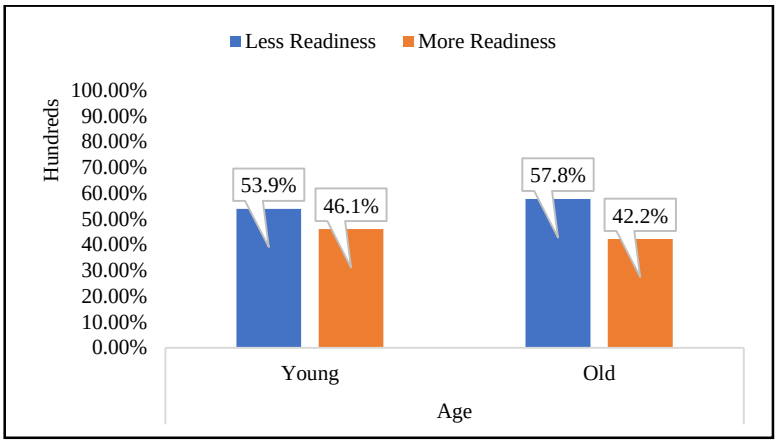


Figure 62: Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Job Status" variable with reference to the Technology Aspect

(n=300)

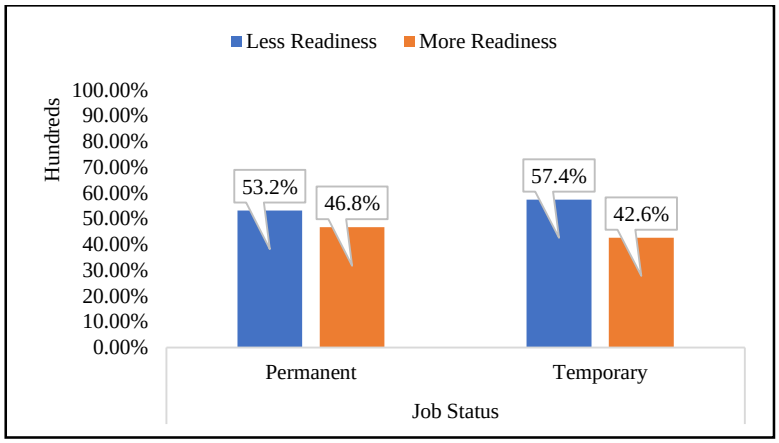


Figure 63: Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Area of Specialization" variable with reference to the Technology Aspect

(n=300)

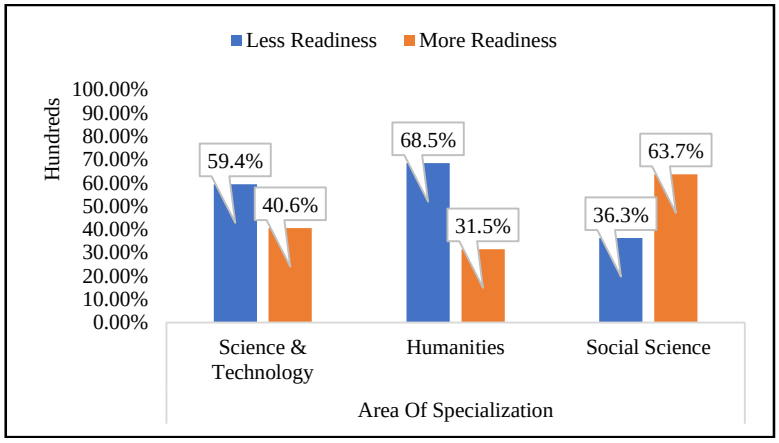


Figure 64: Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Teaching Experience" variable with reference to the Technology Aspect

(n=300)

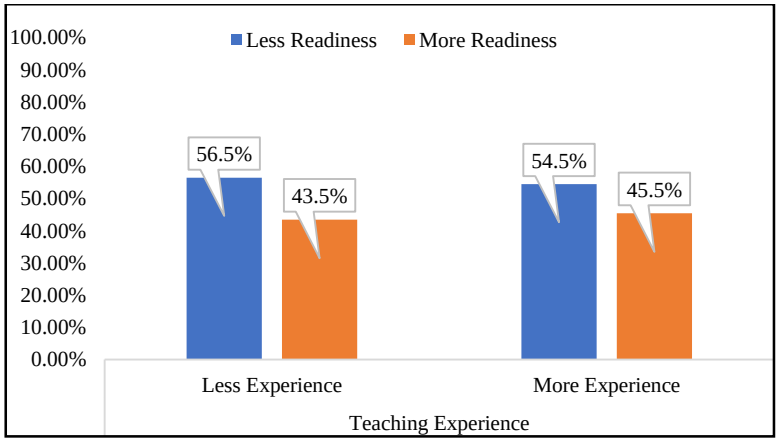


Figure 65: Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Computer and internet Usage" variable with reference to the Technology Aspect

(n=300)

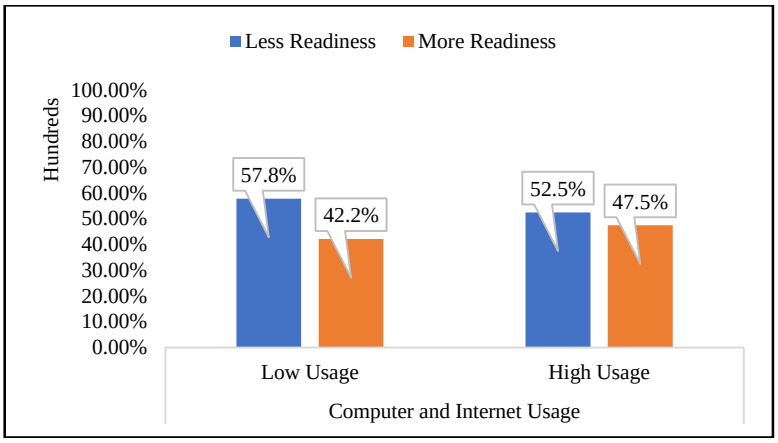


Figure 66: Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Computer and internet related technical competency" variable with reference to the Technology Aspect

(n=300)

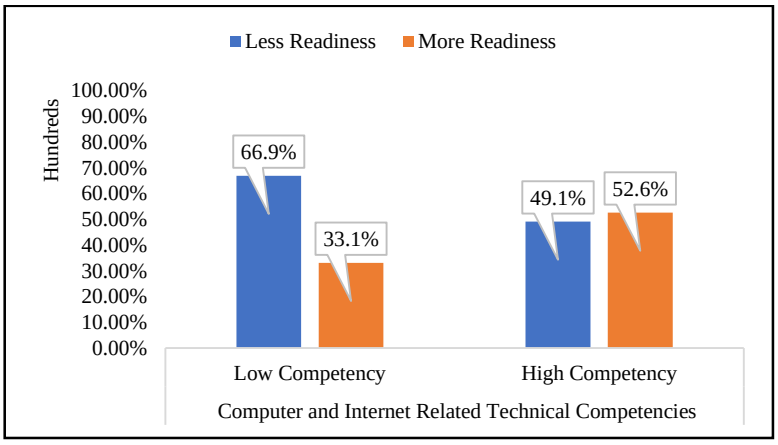


Figure 67: Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Perception towards Technology" variable with reference to the Technology Aspect

(n=300)

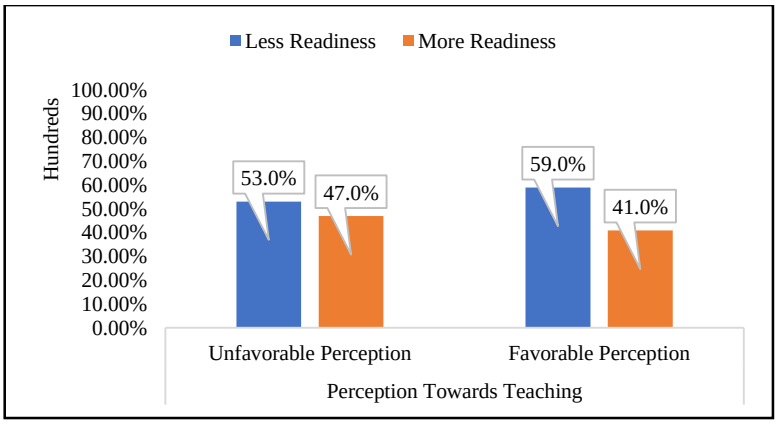


Figure 68: Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Knowledge regarding e-content" variable with reference to the Technology Aspect

(n=300)

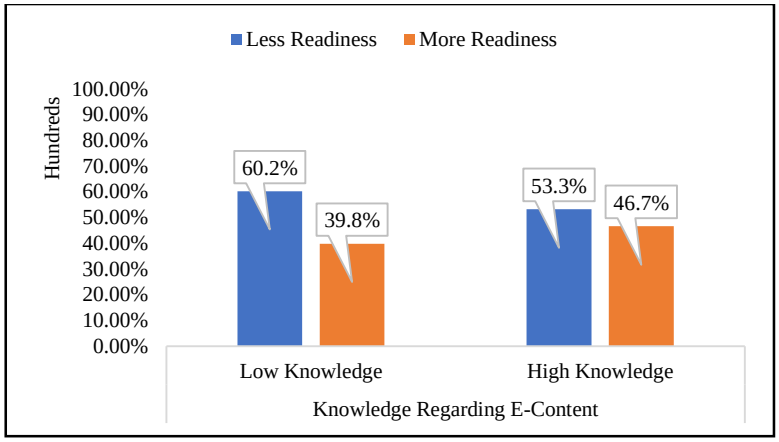
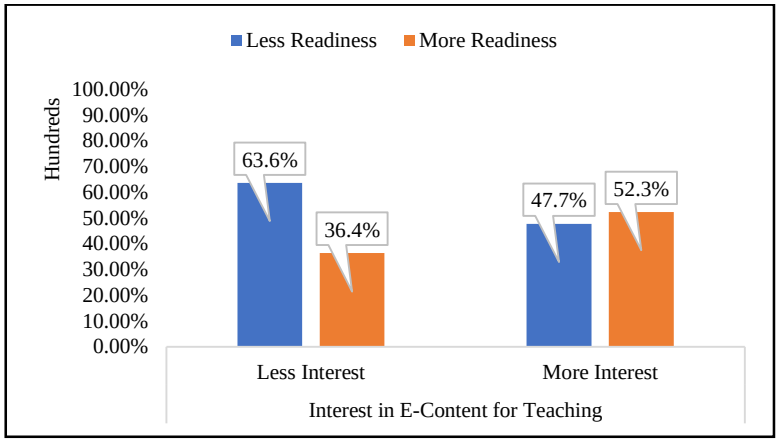


Figure 69: Percentage Distribution of selected Teachers according to their "Department" readiness for usage of e-content for teaching in relation to the "Interest in e-content for Teaching" variable with reference to the Technology Aspect

(n=300)



4.8.7.4 Variable wise Differences in the Readiness of the Teachers regarding the usage of e-content for teaching in relation to "Department" with reference to Technology aspect

Table 57: t- value showing the Variable wise Differences in the Readiness of the Teachers regarding the usage of e-content for teaching in relation to "Department" with reference to Technology aspect

Variable	Category	N	Mean	Std. Deviation	*t-value*	*P-value*
Age	Young	165	56.2	11.8	0.506	0.613
	Old	135	55.5	11.8	0.506	
Job-status	Permanent	124	56.4	12.3	0.620	0.536
	Temporary	176	55.5	11.4	0.612	
Teaching Experience	Less Experience	177	55.7	11.5	0.36	0.718
	More Experience	123	56.2	12.3	0.36	
Computer & Internet Usage	Low Usage	180	54.7	11.2	2.19	*0.029 **Significant**
	High Usage	120	57.7	12.4	2.15	
Computer & internet related Technical competency	Low Competency	127	53.34	9.53	3.28	*0.001 **Significant**
	High Competency	173	57.78	12.91	3.43	
Perceptions towards Technology	Unfavorable Perceptions	166	55.94	11.09	0.07	0.948
	Favorable Perceptions	134	55.85	12.64	0.64	
Knowledge regarding e-content	Low Knowledge	103	56.26	11.97	0.38	0.701
	High Knowledge	197	55.71	11.72	0.38	
interest in e-content for teaching	Less Interest	151	52.50	10.59	5.25	*0.000 **Significant**
	More Interest	149	59.35	11.97	5.25	

Above table 57 indicates that the Readiness in relation to "Department" under the Technology aspect of the selected teachers of The Maharaja Sayajirao University of Baroda did not differ significantly according to the selected variable namely Age, Status of Job, Teaching Experience, Perceptions towards technology and knowledge regarding e-content for teaching.

Thus, the null hypotheses stating that there will be no significant differences in Readiness in relation to the "Department" under the Technology aspect regarding Usage of e-content for the teaching of the selected teachers with reference to the above-mentioned variables were accepted.

The above table also indicates that the Readiness in relation to "Department" under the environment aspect of the selected teachers of The Maharaja Sayajirao University of Baroda differed significantly with variable**s** Computer and Internet usage, Computer and internet related technical competencies, and Interest in e-content for teaching.

Thus, the null hypotheses stating that there will be no significant difference in readiness in relation to "Department" under the Technology aspect of the Selected teachers regarding usage of e-content for teaching with the selected variables Computer and Internet usage, Computer and internet related technical competencies, interest in e-content for teaching were rejected.

The teachers who had higher usage of computer and internet, higher competencies related to computer and internet and also all those who had more interest in the e-content had higher mean scores related to their readiness with reference to departments technological aspect. Thus, it can be said that such teachers had significant differences in comparison to their counterparts related to the readiness in use of e-content for their teaching with reference to departments technology aspect.

The teachers who use the technology extensively and have high competencies in using them as well will definitely be interested in technology. Due to this, such teachers may have reflected their readiness for use of e-content for their teaching. They may be proactive in utilizing the technology facilities provided in the department. Such

an environment in the department might help the teachers to get motivated and be ready for the use of e-content for their teaching. However, the finding of the research highlighted by Fox, Anderson, and Rainie (2005), that despite the demand for online instruction, innovative adoption of online teaching practices in higher education has been limited, as universities often are reluctant to engage in technological development.

AbuSneineh and Zairi (2010) stated that access and ease of technology are the most important factors that contribute to the overall effectiveness of an e-learning system. Apart from the environment, the infrastructure, hardware, and software facilities available in the department might have also contributed to the teacher's readiness related to the aspect namely department's technology.

Table 58: Analysis of Variance (ANOVA) showing the Variable wise Differences in the Readiness of the Teachers regarding the usage of e-content for teaching in relation to "department" with reference to Technology aspect with respect to the area of specialization

Source of variance	Sum of Squares	df	Mean Square	F-value	Sig.
Between Groups	3011.876	2	1505.938	11.602	.000 *sig.
Within Groups	38551.124	297	129.802		

It can be seen from the above table that there were significant differences in the readiness of the teachers in relation to "Department" with reference to the Technology aspect.

Therefore, the null hypothesis stating that there will be no significant differences in the readiness of the teachers with reference to "Department" technology with respect to their area of specialisation was not accepted.

Table 59: Tukey's HSD comparison for the Readiness of the Teachers regarding the Usage of e-content for their teaching in relation to "Department" with reference to Technology aspect with respect to the area of specialization

Area of Specialization		Mean	Mean Difference (I-J)	Std. Error	Sig.
Sciences & Technology	Humanities	56.10	3.868*	1.577	.039
	Social Science		-3.934*	1.647	.046
Humanities	Sciences & Technology	52.23	-3.868*	1.577	.039
	Social Science		-7.801*	1.621	.000
Social Science	Sciences & Technology	60.03	3.934*	1.647	.046
	Humanities		7.801*	1.621	.000

The about table shows that there were significant differences among the readiness of the teachers regarding the use of e-content for the teaching with reference to the aspect namely Department technology.

The teachers who belonged to science and technology (56.10) had highly significant mean differences than their counterparts from humanities (52.23, p=.039) and social sciences (60.03, p=.046). It means that Department technology does have and influence on the readiness of all the teachers who use of e-content for teaching and who belonged to science and technology, humanities and social sciences category of area of specialization.

4.8.8 Readiness of the Teachers regarding the usage of e-content for teaching in relation to Course Content Aspect

4.8.8.1 Variable wise Readiness of the Teachers regarding the usage of e-content for teaching with reference to Course Content aspect

Table 60: Percentage distribution of the selected Teachers according to their readiness for usage of e-content for teaching in relation to the selected variables with reference to the Course Content aspect

(n=300)

Course Content Aspect			
Variable	**Category**	**Less readiness (%)**	**More readiness (%)**
Age	Young	52.1	47.9
	Old	51.1	48.9
Job-status	Permanent	49.2	50.8
	Temporary	53.9	46.6
Area Specialization	Science & Technology	61.4	38.6
	Humanities	60.2	39.8
	Social Science	30.8	69.2
Teaching Experience	Less Experience	52.5	47.5
	More Experience	50.4	49.6
Computer & Internet Usage	Low Usage	55.6	44.4
	High Usage	45.8	54.2
Computer & internet related Technical competency	Low Competency	66.9	33.1
	High Competency	40.5	59.5
Perceptions towards Technology	Unfavorable Perceptions	51.2	48.8
	Favorable Perceptions	52.2	47.8
Knowledge regarding e-content	Low Knowledge	60.2	39.8
	High Knowledge	47.2	52.8
interest in e-content for teaching	Less Interest	60.3	39.7
	More Interest	43.0	57.0

The above table 60 reveals that Little more than half (52.1%) of the young teachers had less level of readiness for using e-content whereas less than half of the old teachers (48.9%) had more readiness for using e-content in relation to the Course Content aspect.

The finding highlighted that almost half of the respondents i.e. (50.8%) of the selected permanent teachers had more readiness for using e-content whereas little more than half of the selected temporary teachers (53.9%) had less readiness for using e-content in relation under the Course Content aspect.

The above table reveals that readiness of the selected teachers regarding usage of e-content with the area of specialization under the Course Content aspect, it was observed that almost a similar percentage of the teachers both from Science and Technology (61.4%) and Humanities (60.2%) had less level of readiness for the usage of e-content in teaching whereas the majority (69.2%) of the teachers from the area of Social Science had more readiness for the usage of e-content for teaching under the Course Content Aspect.

Table 60 reveals that the teachers with less teaching experience showed less readiness (52.5%) in their readiness in using the e-content under the Course Content aspect whereas it was observed that the teachers with more teaching experience had more readiness (49.6%) in their readiness in using the e-content under the course content aspect.

Little less than the majority of the teachers who used less of computer & internet showed less readiness (55.6%) for using e-content in the teaching under the Course content aspect whereas a little more than fifty (54.2%) of the selected teachers who used more of computer & internet showed more readiness towards usage of e-content in the teaching under the Course Content aspect.

Little more than the majority of the selected teachers with low competency related to computer and internet showed less readiness towards usage of e-content i.e. (66.9%) whereas a little less than sixty percent (59.5%) of the selected teachers with high competency in relation with computers and internet had more readiness regarding usage of e-content in the teaching under the Course content aspect.

Little more than half i.e. (51.2%) of the selected teachers who had unfavourable perceptions towards technology showed less readiness towards usage of e-content for teaching whereas less than half i.e. (52.2%) of the selected teachers who had favourable perceptions towards technology had less readiness towards usage of e-content for teaching under the Course Content aspect.

The majority of the teachers with low knowledge regarding e-content had less readiness i.e. (60.2%) under the Course content aspect regarding their readiness in the usage of e-content for teaching whereas more than half of the teachers with high knowledge regarding e-content i.e. (52.8%) had more readiness.

The finding revealed that the majority of teachers (60.3%) who had less interest in e-content for teaching had less readiness towards usage of e-content for teaching under the course content aspect whereas little less than a majority (57%) of teachers with more interest in e-content for teaching had more readiness towards usage of e-content for teaching.

Figure: 70 Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Age" variable with reference to the Course Content Aspect

(n=300)

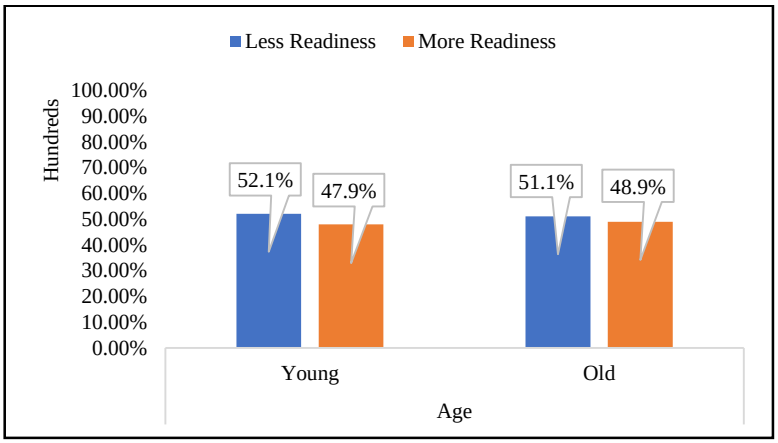


Figure: 71 Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Job Status" variable with reference to the Course Content Aspect

(n=300)

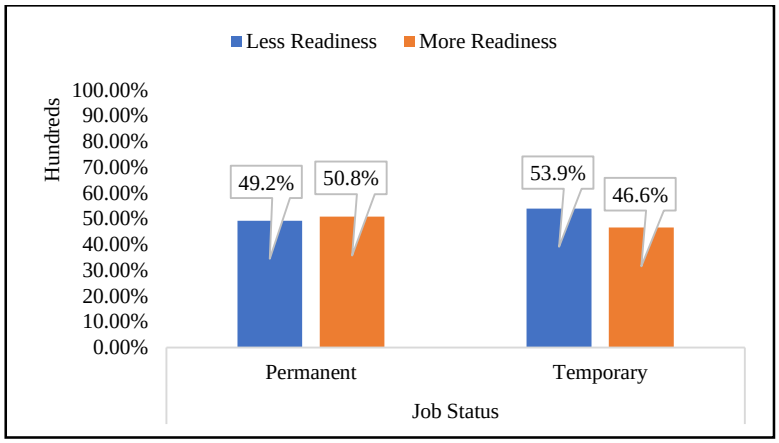


Figure: 72 Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Area of Specialization" variable with reference to the Course Content Aspect

(n=300)

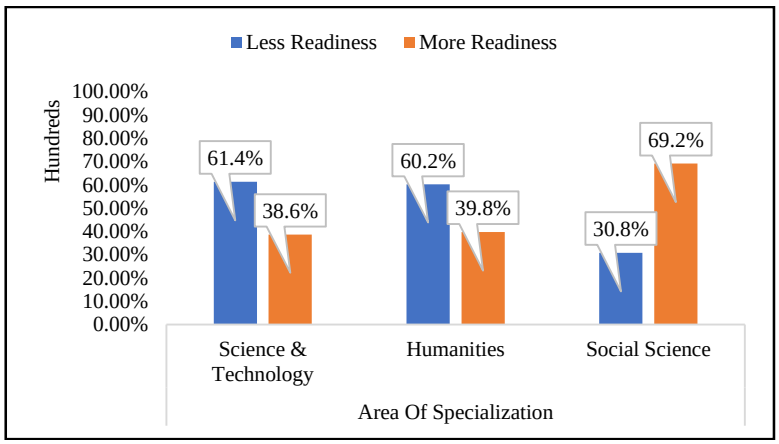


Figure: 73 Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Teaching Experience" variable with reference to the Course Content Aspect

(n=300)

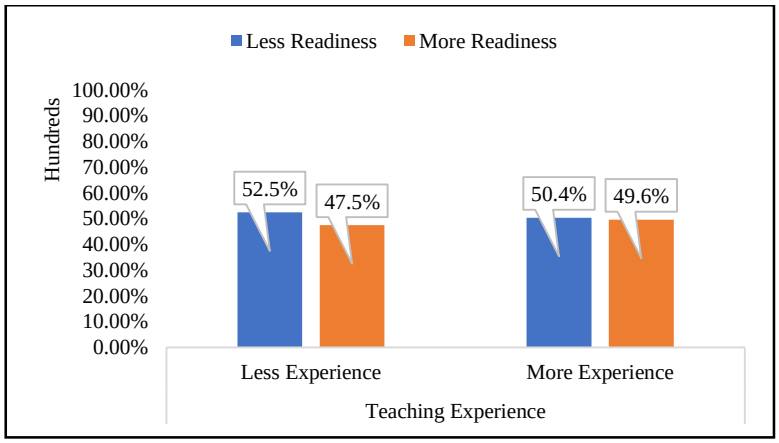


Figure: 74 Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Computer and internet Usage" variable with reference to the Course Content Aspect

(n=300)

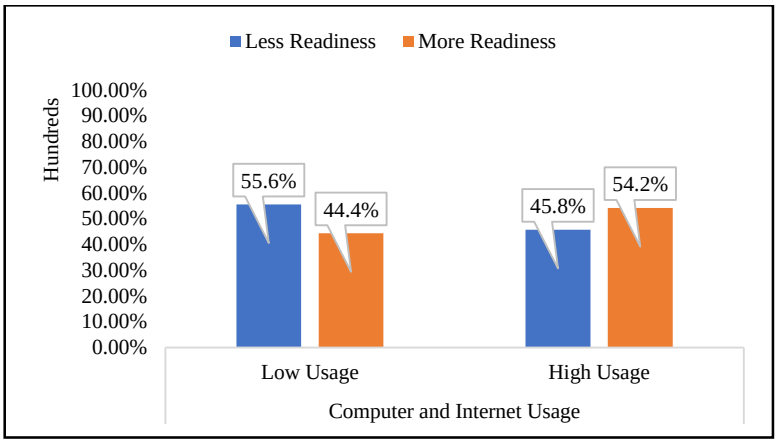


Figure: 75 Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Computer and internet related technical competency" variable with reference to the Course Content Aspect

(n=300)

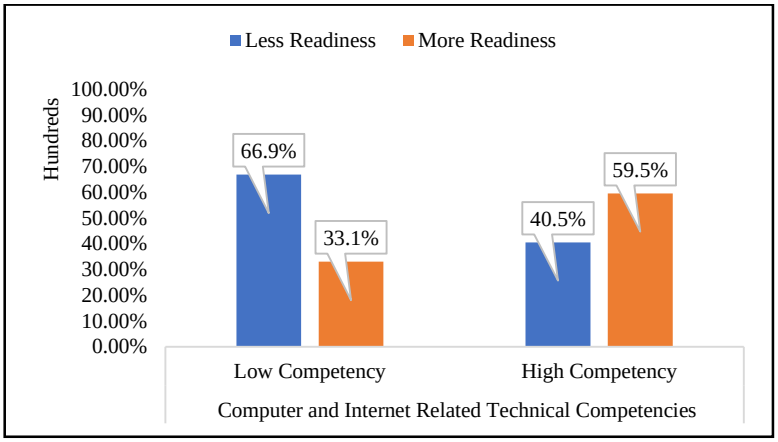


Figure: 76 Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Perception towards Technology" variable with reference to the Course Content Aspect

(n=300)

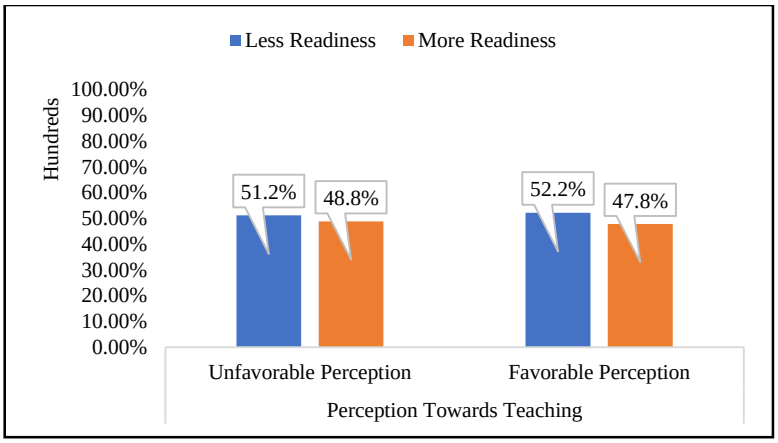


Figure: 77 Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Knowledge regarding e-content" variable with reference to the Course Content Aspect

(n=300)

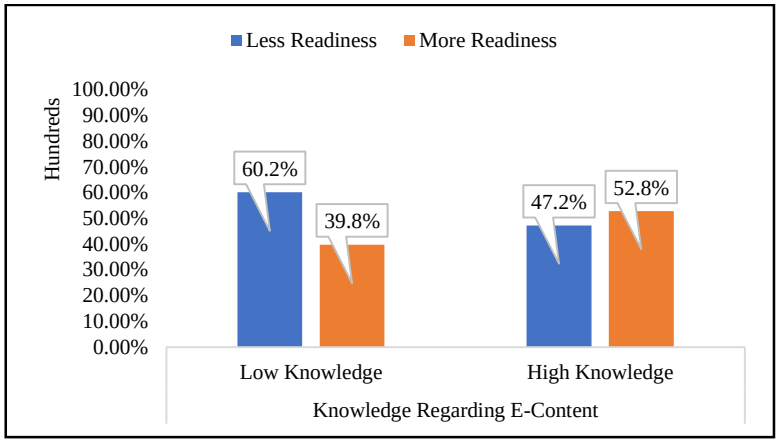
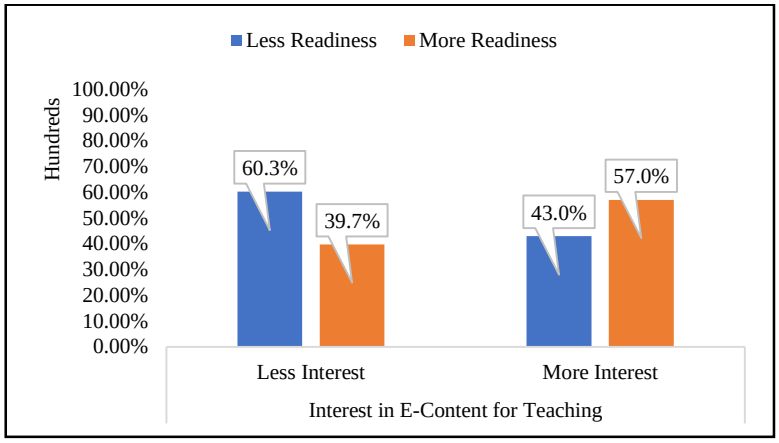


Figure: 78 Percentage Distribution of selected Teachers according to their readiness for usage of e-content for teaching in relation to the "Interest in e-content for Teaching" variable with reference to the Course Content Aspect

(n=300)



4.8.8.2 Variable wise Differences in the Readiness of the Teachers regarding the usage of e-content for teaching with reference to Course Content aspect

Table 61: t- value showing the Variable wise Differences in the Readiness of the Teachers regarding the usage of e-content for teaching with reference to Course Content aspect

(n=300)

Variable	Category	N	Mean	Std. Deviation	*t-value*	*P-value*	Remarks
Age	Young	165	29.1	5.5	0.66	0.509	0
	Old	135	28.6	6.2	0.65		
Job-status	Permanent	124	29.0	6.2	0.33	0.745	0
	Temporary	176	28.8	5.6	0.32		
Teaching Experience	Less Experience	177	28.9	5.6	0.14	0.889	0
	More Experience	123	28.8	6.2	0.14		
Computer & Internet Usage	Low Usage	180	28.1	5.4	2.75	0.006	**Significant**
	High Usage	120	30.0	6.3	2.67		
Computer & internet related Technical competency	Low Competency	127	27.05	5.27	4.76	0.00	**Significant**
	High Competency	173	30.18	5.86	4.84		
Perceptions towards Technology	Unfavorable Perceptions	166	28.84	4.97	0.33	0.974	0
	Favorable Perceptions	134	28.87	6.75	0.32		
Knowledge regarding e-content	Low Knowledge	103	28.64	6.53	0.46	0.648	0
	High Knowledge	197	28.96	5.43	0.43		
interest in e-content for teaching	Less Interest	151	27.58	4.62	3.916	0.00	**Significant**
	More Interest	149	30.15	6.59	3.907		

Above table 61 indicates that the Readiness in relation to the Course Content aspect of the selected teachers of The Maharaja Sayajirao University of Baroda did not differ significantly according to the selected variable namely Age, Status of Job, Teaching Experience, Perception towards technology, Knowledge regarding e-content.

Thus, the null hypotheses stating that there will be no significant differences in Readiness under the Course content aspect regarding Usage of e-content for the teaching of the selected teachers with reference to the above-mentioned variables were accepted.

Above table 61 also indicates that the Readiness in relation to the Course content aspect of the selected teachers of The Maharaja Sayajirao University of Baroda differed significantly with variable**s** Computer and internet related usage and technical competencies, Interest in e-content for teaching.

Thus, the null hypotheses stating that there will be no significant difference in Readiness under the Course content aspect of the Selected teachers regarding usage of e-content for teaching with the selected variables Computer and Internet usage, Computer and internet related technical competencies, and interest in e-content for teaching were rejected.

The teachers with more usage of computers and the internet and higher competencies in computer and internet had significant differences than their counterparts related to their readiness for the use of e-content for their teaching with reference to the course content aspect.

The teachers with advanced skills and higher use of computers and the internet can definitely be able to actively make efforts in exploring the digital resources related to their courses.

They may also be ready to convert their courses or a few units of their courses digitally. For this the kind of efforts may include teachers' interactions with experts, receiving training in this area, involving practical, hands-on experiences in using e-content available for their course content.

Table 62: Analysis of Variance (ANOVA) showing the Variable wise Differences in the Readiness of the Teachers regarding the usage of e-content for teaching with reference to course aspect

Source of variance	Sum of Squares	df	Mean Square	F-value	Sig.
Between Groups	319.949	2	159.974	4.842	.009 *sig.
Within Groups	9811.598	297	33.036		

It can be seen from the above table that there were significant differences in the readiness of the teachers with reference to the Course content aspect with respect to their areas of specialization.

Therefore, the null hypothesis stating that there will be no significant differences in the richness of the teachers regarding the use of e-content for the teaching with reference to the Course content aspect was not accepted.

Table 63: Tukey's HSD comparison for the Readiness of the Teachers regarding the Usage of e-content for their teaching in relation to Course Content aspect with respect to the area of specialization

Area of Specialization		Mean	Mean Difference (I-J)	Std. Error	Sig.
Sciences & Technology	Humanities	28.60	.771	.796	.597
	Social Science		-1.737	.831	.094
Humanities	Sciences & Technology	27.83	-.771	.796	.597
	Social Science		-2.507*	.818	.007
Social Science	Sciences & Technology	30.34	1.737	.831	.094
	Humanities		2.507*	.818	.007
	*. The mean difference is significant at the 0.05 level.				

The above table shows that there were significant differences observed in the readiness of teachers regarding their use of e-content for their teaching with reference to the course content aspect according to the areas of specializations. The teachers belonging to social science background (30.34) had highly significant differences than their counterparts from humanities (27.83, p=.007)

It means that the aspect namely course content does have an influence on the readiness of teachers for the usage of e-content for the teaching who belonged to social science background.

However, no significant differences were found amongst the readiness of the teachers for the usage of e-content for their teaching with respect to course content aspect who belonged to science and technology and humanities and as well as science and technology and social sciences.

4.9 EXPECTED CHALLENGES RELATED TO THE USAGE OF E-CONTENT FOR TEACHING

Table 64: Item wise intensity indices showing expected challenges related to the usage of e-content for teaching

(n=300)

Statements	Intensity indices
Inadequate training of teachers on e-content use	3.24
Inadequate ICT tools in the department for e-content use	3.14
Insufficient number of laptops	2.89
Lack of technical support in department / University	2.89
Limited fund/budget provision for new innovations	2.85
Unable to use e-content because of rigidity of time	2.76
Insufficient number of interactive whiteboards	2.75
Heterogeneity amongst students' preferences to study	2.73
Lack of interest of teachers in e-content usage	2.65
Insufficient number of computers	2.64
Insufficient Internet bandwidth or speed	2.64
Difficult to integrate e-content usage, into the curriculum	2.61
Lack of pedagogical models on how to use e-content for teaching	2.61
Pressure to prepare students for exam and test on teachers	2.58
Lack of adequate skills of teachers	2.58
Lack of adequate content/material for teaching	2.58
Limited access of internet facility	2.54
Insufficient number of internet connections for computers	2.52
Interrupted supply of electricity	2.50
Teachers' Negative attitude towards teaching e-content	2.45

The above table 64 depicts the response scale of the teachers regarding the expected challenges related to the usage of e-content for teaching, which ranged from the highest 3.24 to the lowest 2.45. This means that the teachers agreed the expected challenges related to the usage of the e-content for teaching range from same extent to less extent only. From the above table it is revealed that teachers expect that inadequate

training of teachers is one of the challenges which can act as a barrier to them. Further inadequate ICT tools at the department (3.14) can also be the challenge for e-content usage. Apart from that the lack of technical support in the department, (*2.89) limited financial budget (2.85), insufficient numbers & interactive boards (2.75), heterogeneity amongst the student's preferences to study (2.73) are the expected challenges for e-content usage for their teaching. Further, the selected teachers for the present investigation also responded to less extent for the following expected challenges:

- The lack of interest of teachers in e-content usage (2.65).
- Insufficient computers in the department (2.64)
- Slow internet speed (2.64)
- Difficulty in integrating e-content usage into classroom (2.61)
- Pressure to prepare students for exams (2.58)
- Lack of adequate skills of teachers for using e-content (2.58)
- Interrupted electric supply (2.50)
- Negative attitude of teachers towards e-content (2.45)

Thus, the above table 64revealed the selected teachers for this present investigation felt that the enlisted expected challenges in the usage of e-content for teaching may come in the way of the usage of e-content for teaching were felt by the teachers from some extent to less extent only. None of the enlisted items were agreed upon to a great extent. This indicated positively that the expected challenges may be conquered with few changes at the personal level like, if teachers receive effective training for the use of e-content for teaching then they may face fewer or negligible challenges and further they may also not have a negative attitude towards e-content usage for teaching. They may develop skills in e-content usage which may motivate them to sustain interest in usage of e-content for their profession. This may further help the teachers to have hands-on experience in the development of e-content for their courses. Wee and Bakar (2006) stated that the most significant obstacles towards implementing e-Learning are fast changes in ICT tools, extra time and effort needed to integrate ICT tools in teaching, poor network connectivity, and improper evaluation in the integration of ICT tools in teaching.

The enlisted challenges related to the infrastructural and technical facilities at the department level can be taken care of as with few modifications like increase in the number of computers/laptops/interactive whiteboard and the access of these technological gadgets to the teachers may motivate them for the effective usage of e-content for their teaching. Also, if save budgetary expansion is made to some extent from the university level for such new innovative technology for education purposes, then it may definitely have a positive impact on the usage of e-content for teaching.

This is a positive indication that challenges were felt from some extent to less extent, as they can be treated well at the personal, Department, Faculty, and eventually at the Univuniversityel with proper planning, and the results can be fruitful. Thus, opening the doors to the world-class education system of the University of Baroda as The Maharaja Sayajirao University has the legacy of pioneering many educational projects at the National level and international level.

4.10 SUGGESTIONS REGARDING USAGE OF E-CONTENT FOR TEACHING

Table 65: Item-wise intensity indices showing suggestions related to the usage of e-content for teaching.

(n=300)

Statements	Intensity indices
Higher authorities should promote e-content usage in universities	4.27
Free of cost Orientation Programmes related to recent	4.09
Training cell can be created to train interested teachers	4.08
University should introduce a budget head for the purchase	4.04
Well versed technical staff should be appointed in	4.04
The department / faculties should gear up to provide	3.99
University can create in-house facility for faculties e-content usage of classroom	3.95
Appreciation should be given to the teachers who use e-content for classroom teaching.	3.93
Post-graduation degree/ Ph.D. programmes should have	3.93
Research cell of our university should give preferences	3.87
Baby steps like teaching 20% of the courses offered	3.85
UGC can play an active role in implementing a policy to have	3.78
Compulsory orientation of e-content usage should	3.78
Foundation courses like English/ communication skills	3.75
All departments and faculties should arrange Workshop	3.74
The entrance exams like NET/SLET/PET should include	3.67
Some compulsory percentage of teaching hours should	3.62
The in-service training has compulsory session on e-content usage for teaching.	3.60
Evaluative committers like NAAC/ NIRF should have criteria	3.58
UGC should make a policy/ rules for teachers to receive	3.55
Knowledge about e-content about e-content usage	3.43
Promotion of teachers should have the criteria	3.39
Competitions can be arranged at department and faculty	3.36

The above table 65 shows the intensively indices for the suggestions regarding the readiness of the teachers for usage of e-content for teaching, which ranged from 4.27 to 3.36. This means that the respondents' responses towards the enlisted suggestions were varying from agreement to almost half of the suggestions to that of being neutral to the other suggestions enlisted in the table. The item wise intensity indices indicate that respondents agreed to the following suggestions:

- Higher authorities should promote the e-content (4.27)
- Free Orientation programme related to recent educational technologies. (4.09)
- Establishment to Training cell (4.08)
- Introduction of specific budget head for purchase of equipment's and other facilities for e-content usage (4.04)
- Technical staff should be appointed to assist teachers for the usage/development of e-content. (4.04)
- Facilities to be provided for usage of e-content for classroom teaching (3.99)
- Appreciation to teachers who use e-content (3.93)
- PG Course/Ph.D. Programme should have a course on e-content usage and development (3.93)
- Research cells should give preferences to the research proposals related to usage and development of e-content (3.87)
- Teaching 20% of the courses using e-content (3.85)

Thus, the above-mentioned suggestions if catered well can expedite the usage of e-content for teaching. The suggestions for which teachers have agreed upon are majorly related to implementation at the department, University level like increase of the human and non-human resources like technical staff, more of facilities at the classroom, budgetary provisions and mandatory rules for teaching same courses via e-content etc. these suggestions can be easily implemented. The universities' decision-making bodies like the senate and syndicate, PG council can collectively make certain mandates to facilitate the usage of e-content usage and development.

Further, the teachers also have neutral responses for the below-enlisted suggestions:

- UGC can implement a Policy related to e-content (3.78)
- Foundation courses on e-content should be offered (3.75)

- Workshops/Seminars should be organized on e-content usage and development (3.74)
- Entrance exams like NET/SLET should have questions related to e-content. (3.67)
- Compulsory session of e-content usage for teaching (3.60)
- Evaluative committees like NAAC should have a criterion on e-content (3.58)
- UGC Policy to have certified training as a prerequisite for promotion (3.55)
- Promotion of teachers should be based on usage of latest ICT for teaching (3.39)
- Competition for teachers to use and develop e-content (3.36)

All the above-enlisted suggestions indicate a trend related to the forceful, compulsory element in each suggestion, as probably that may be one of the strong reasons for responding neutrally to the suggestions. Teachers are well-qualified, trained professionals. This is a very noble profession, which provides immense satisfaction to the teachers when students respond well and are satisfied by the teaching. Thus, teachers always aspire to be prompt, active, organized, updated, and innovative in their approaches to teaching. Thus, the wonders of the technology are well spelled, and teachers are aware of it also. However, when anything is enforced upon with pressure, might not have appropriate and effective results. However, if the other factors like provision of technological facilities, budget, awareness programmes are taken care of then teachers will positively adapt and get adapted to the new ICTs easily and with full commitment.

4.11. READINESS OF THE SELECTED TEACHERS REGARDING THE DEVELOPMENT OF E-CONTENT FOR TEACHING

Fifteen teachers were selected for conducting interviews concerning their readiness towards the development of e-content for classroom teaching. All the teachers were permanent teaching faculties and some of the teachers were head of the departments of various faculties of The Maharaja Sayajirao University of Baroda, Vadodara. The selected fifteen teachers were from Faculty of Sciences, Medicine, Pharmacy, Technology & Engineering, Arts, Fine Arts, Performing Arts, Commerce, Management Studies, Family & Community Sciences, Social Work, Education & Psychology, Journalism and Communication, and Law.

4.11.1 *Percentage distribution of selected Heads/Teachers from different faculties according to their Status of Usage and Development of e-content.*

- A majority i.e. (80 %) of the selected teachers responded that they had very high computer usage for daily classroom teaching whereas only twenty percent of the teachers had low computer usage for daily classroom teaching. Further, some of the teachers also mentioned the reasons for using the computer, like typing content for lectures, making subject notes for students, gathering information about the subject matter from the internet and then sharing with students through emails for their references, making presentations for lectures, etc.

- A Very high i.e. (73.33 %) teachers said "No" when asked if they teach students through any kind of digital material whereas only (26.67 %) of teachers were teaching students through any kind of digital material.

- A Very high i.e. (73.33 %) teachers said "No" when asked if they subscribe online or digital journals for their subject references whereas only (26.67 %) of teachers subscribe online or digital journals for their subject references. Some teachers informed that subscribing to the digital journal is costly for the specific department as well for individual teachers. But in Hansa Mehta Library, the main university library, they use available online digital journals that subscribe to the university library. But again, sometimes inaccessibility, sometimes due to technical error or poor network is faced by the teachers.

- When selected teachers were asked that their department have e-content (digital content) in the library, (66.66 %) teachers said "yes" that they have suitable e-content in their department/ faculty library, only (33.33 %) teachers disagreed that their department didn't have related e-content in their library. All the teachers from different faculties as well as from different specializations were ready to develop e-content for classroom teaching.

4.11.2 *Responses of selected Teachers according to their Planning & Implementation Strategies for development of e-content?*

- *One of the teachers responded that: "our department has a clear image about implementing the teaching-learning through e-content and for that, we as an experienced teacher of the department encouraged other department teachers to do the needful in this regard."*
- All the teachers agreed that their department teachers will be motivated to use and developed e-content for their daily classroom teaching, once they are aware of the potential of teaching through e-content. One of the teachers responded that *"Teachers' self-motivation can also work, but this will happen gradually."*
- Teachers from different departments expressed that: *"the University, as well as department, needs more technical preparedness itself with necessary online educational resources and training programmes for teachers."*
- *Another teacher expressed: "Earlier I used to make my power-point slide for any presentation, but at present, I am typing the descriptive content along with the slide materials and converting them as pdf files. This way, I have started preparing and collecting notes and material digitally. Gradually these types of materials will be converted as an e-content module for the students. I am ready to spend money for learning new technology, but time is the main factor for teachers."*
- Teachers from the different departments also highlighted that: "*department is planning to implement e-content in the department for regular classroom teaching for that they have to be prepared to handle the challenges that are likely to arise during the implementation time. Initially, departments may have to introduce e-content as blended learning as a different way of classroom teaching method to increase the accessibility of online education in the system."*

The head of the departments and senior teachers were asked about "Strategies for catering teachers demand to learn about development of e-content?"

Thus, it can be inferred from the above responses of the head of the departments and senior teachers, who were interviewed, that teachers have reflected an interest in the development of e-content. For that, they have initiated preliminary efforts also. However, various challenges like, time, training in e-content development have to be sorted.

4.11.3. Responses of selected heads/teachers related to their Expected Barriers for usage and development of e-content.

- *Development of e-content on any specific subject is difficult process and costly for small departments"*
- *We were unable to develop e-content because of lack of knowledge about technical skills related to software's which are used for e-content development, high speed internet connection facility, licenced software's etc.*
- *Insufficient staff of technically skilled personnel in department, for teachers who are willing to developed e-content for their subject.*
- *Lack of subject content in national language*
- *Lack of personal interest in teachers for using and developing e-content for their subject*
- *Insufficient number of computers in department labs, poor internet bandwidth as speed for e-content development and usage.*
- *University computers are very old and need repairing.*
- *Lack of financial support from university and on the other side department has limited budgets for every activity which are planned every year. So, at department level we cannot make sperate budget for e-content development.*
- *Insufficient funds at department level to buy ready to use e-content*
- *Inadequate teachers training programs for e-content development and teaching through e-content in classroom*
- *ICTS and e-learning literacy, Lack of awareness of digital educational technology, interest, and motivation of teachers."*
- *Ambiguous plan and policies in department for e-content usage and development*
- *Less Use of E-content for teaching because of lack of faith in new technologies*

The selected teachers enumerated on the: 'What are the Expected barriers for the development of e-content?' during data collection. Responses are listed below as verbatims.

Teachers who were asked about the expected barriers in the development of e-content responded that it's a difficult process and costly too. Insufficient, human and non-human resources in the department, plans, and policies related to e-content in the department, were some highlighted issues.

4.11.4. *Response of the selected teachers related to the Steps for motivating teachers for developing e-content:*

- *"We are trying to Identify a way of motivating our teaching staff to use e-content and convert their course materials to e-content by giving extra credit points during promotions and interviews etc."*
- Further, Different department heads and other more experienced teachers observed that Online teaching experience is different than physical classroom teaching. It needs tolerance, understanding, good presentation skill with lecturing with the power-point presentation, proper handling of digital content, handling of tools online as well as in a computer, these are the additional skills required to manage the online teaching process. Thus, they suggested that: "teachers have changed their mindsets and accepted new ways of teaching, new multimodal approaches to achieve course content objectives to achieve the better learning outcome.
- *One teacher pointed out that: "Teachers must ask regular feedback from students about the positives and negatives of teaching through the e-content method and continue to work until the satisfactory result achieved."*
- *One head of the department shared that: "Inclusive training of department teachers on the development of e-content skills should be frequently organized at the department level. So that time by time teachers can update their technical skills and could be more confident while delivering lectures through e-content."*
- *One teacher shared that: "At the department level we are planning to make a separate budget head for participating seminar/workshops/training program related to e-content usage and development for classroom teaching through which teachers can participate without any hurdle."*

The selected teachers were asked about "Steps for motivating teachers for developing e-content" during data collection. Responses are listed below as verbatims.

More training programmes needed regularly, and teachers should be sent to relevant training programmes and should be given time to explore the ICT for teaching and research.

4.11.5. ***Responses of the selected teachers related to the 'Efforts made by the Department for preparing teachers for content digitalization?' during data collection. Responses are listed below as verbatims.***

- *We as a senior and experienced teacher of the department are trying to Identify a way of motivating the teaching staff to use e-content and convert their course materials to e-content.*
- *Good domain knowledge, excellent software knowledge, advance computer knowledge, excellent communication skills, clarity of subject content, other necessary skills to deal with the demands of the online teaching system and the capability to resolve issues during and after the online classes are found as online teaching skills and techniques needed to teach through online platform. So, we are trying to encourage our teachers to improve and gain confidence on this skill for better performance.*
- *More e-journals, databases, updated online books, and access to teachers will be provided to enhance the research work.*
- *At department level we are trying to get subscription of different blogs and web pages to keep updated with any issue related to usage and development of e-content.*
- *Manuals for how to utilize the different e-resources like e-shod Sindhu, HMT library portal will be provided.*
- *Teachers and students will be trained for using various software ranging from plagiarism, review collection, data analysis, etc*
- *As a senior teacher we are applying in different projects and making proposal for doing new projects in department for converting our subject content into digital content through UGC, MHRD.*

Extensive and continuous efforts have been made in the various department to encourage and motivate teachers to gain confidence in preparing teachers for content digitalization and the development of e-content for their classroom teaching.

4.11.6. *Responses of the selected teachers related to "Further plans for development of e-content" :*

Head of the departments and other experienced teachers from different faculties, expressed the following plans for the development of e-content in their department:

- *Teachers Demanded the provision of a bigger screen with good quality vision so that they can arrange for online classes with different institutions for more advanced learning, Video shows with highly experienced teachers and experts in different fields.*
- *One Professor shared that: "Collaborations and partnerships with other successful institutes, who are successful in usage and development of e-content for classroom teaching can be a good idea in order to gain the best result for the implementation of e-content as well as reduce the risk factors in our university. Partnerships could be done in areas like development and sharing of e-content, other e-resources, funding, training of e-content usage, sponsors, and e-content usage-friendly infrastructure development.*
- *Using a blended learning approach and piloting with other universities as a starting point before implementation of full-scale teaching through e-content.*
- *Expansion of e-content usage-friendly infrastructure to facilitate access to e-learning by students, teaching staff, and other stakeholders through the allocation of more resources towards ICT and e-content infrastructure development. Availability of computers, laptops, networks, and other relevant infrastructure will improve accessibility to e-learning.*
- *Prioritization of development of e-content in budgetary allocations just like other core activities of the university.*

4. 12 CONCLUSION :

The e-content is an extremely effective teaching method. It is beneficial to both students and teachers in all types of personalized instruction systems. It is the most recent style of instruction that has sparked more interest amongst the teaching community worldwide. The benefits of e-learning are mainly the cost-efficiency, accessibility, and flexibility in terms of time and place. E-learning allows learning to take place when the lecturer and the learner are separated both in time and space (Uys, 2003). It offers convenience for both tutor and the learner (learning anytime or anywhere).

India’s higher education is primarily focused upon changing the educational system to include a student-friendly approach as well as a psychological approach to learning that is progressive, harmonious, and creative. Students are India's best future economic growth resource. As a result, educational modernization works in tandem with the rest of the world. Apart from the teacher, students must obtain their information through e-content distribution. e-content can bring forth students' clear-cut concepts in their subject matter, allowing for smooth learning.

Based on the findings of the present research (48%) of the teachers were having readiness for using e-content for their classroom teaching. This finding was supported by Shu-Sheng Liaw., et al. (2007) the researcher observed that the trend of using e-learning as a learning and/or teaching tool is now rapidly expanding into the education sector. Teachers were using and developing e-content for their classroom teaching as well as creating resource material for their subjects through e-content but still need to motivate teachers for higher usage and development of e-content. Berhanu (2010) warned that introduction of e-learning without acknowledging the paradigm shift and setting up the required ICT infrastructure and efficient support mechanism threatens e-learning developments.

Teachers also had positive perceptions towards educational technology like e-content enhances and improves their teaching practices but because of less availability of resources, they are unable to utilize their time for learning this educational technology. Broadley (2007) observed that teachers’ perceptions and attitudes towards e-learning also play a critical role in e-learning implementation.

Senior professors and More experience teachers of the departments should encourage department teachers to utilize the e-content in their daily teaching practices. The University should improve the Internet speed, connectivity, and computer facilities. The university and individual departments are also recommended to provide more training for teachers to improve their skills in using e-content for classroom teaching as well as for developing their own subject related e-content. However, major challenges expected by teachers in order to utilize the e-content in their teaching practices are technical support. The University's different faculties have made a separate budget for technical support for e-content usage and development. Every faculty can appoint one specialist for the development of e-content who can handle all technical problems which arise during the usage of e-content. Every year each faculty and department can evaluate themselves by measuring their own department on different indicators for making their department and faculty, technology-friendly for better usage and development of e-content for teaching. Internet time should be allotted more for e-content utilization and infrastructure facilities should be strengthened by Institutions.

The university's different faculties can collaborate with other universities or institutes for university or can take up a project to enhance the usage and development of e-content in teaching by faculty teachers. However, teachers can get motivation through policies Like compulsory orientation of e-content usage and development, mandatory teaching hours to be dedicated for e-content usageteacher'srs promotion criteria based on the e-content usage in teaching, etc. Computer technology training should be open to all teachers regardless of their level of education and computer training experiences. Organizing a free workshop, seminars & training Programmes related to usage and development of e-content, the establishment of training cells, allocating special budget in the department for using and developing e-content for teaching, creating technical facilities in the classrooms like interactive boards to facilitate e-content usage for teaching, giving appreciations to the teaches who use e-content for their teaching may improve the status of e-content usage. University teachers must develop advanced skills related to the usage of different software for the development of e-content, through in-service programmes. Funds should be through collaborations for the purchase of software and hardware tools and other accessories. Research on university and different faculty teachers' readiness for teaching through e-

content in the classroom is important because it can support the development of academic practices for university teachers. Akaslan and Law (2011) investigated the extent to which Higher Education Institutes in Turkey were prepared to include e-learning as part of their learning business. They identified various factors that affect the readiness for e-learning in a developing country where education is given significance and, due to changing living patterns, the educational institutions are moving from traditional learning modes to e-learning modes. These e-learning factors are based on two beliefs: that e-learning will reduce the efforts required from teachers and at the same time increase the educational level, and that some training is needed for students as well as for teachers in order to move from traditional learning to the e-learning mode.

At present, teaching through e-content has become an accepted way of teaching across universities worldwide also because of the covid-19 pandemic However, implementation of any teaching through e-content Programmes should become first by measurement of e-learning readiness as it enables the university and college to design a suitable and appropriate system to fit their requirement.

4.13 RECOMMENDATIONS FOR FURTHER RESEARCH

1. A study of e-content usage and development practices followed by teachers at faculties and college levels can be studied.

2. An experimental research on the effectiveness of teaching through an e-content course developed by teachers and teaching through traditional methods" can be carried out.
3. A study of e-content usage and development practices by teachers can also be carried in individual faculties of University to find out the status of educational technology used by teachers and acceptance level of students".
4. In-depth research study can be undertaken on adopting the usage of e-content for classroom teaching by teachers of various areas of specialization.
5. An analytical study can be planned to identify the various factors responsible for the enhanced use of e-content for teaching.