Science Cascade Training - 2013-14

Feedback Analysis

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1 Table 1: Cascade Participation and Response

1.1 Number of Participants and Number of Feedback Responses

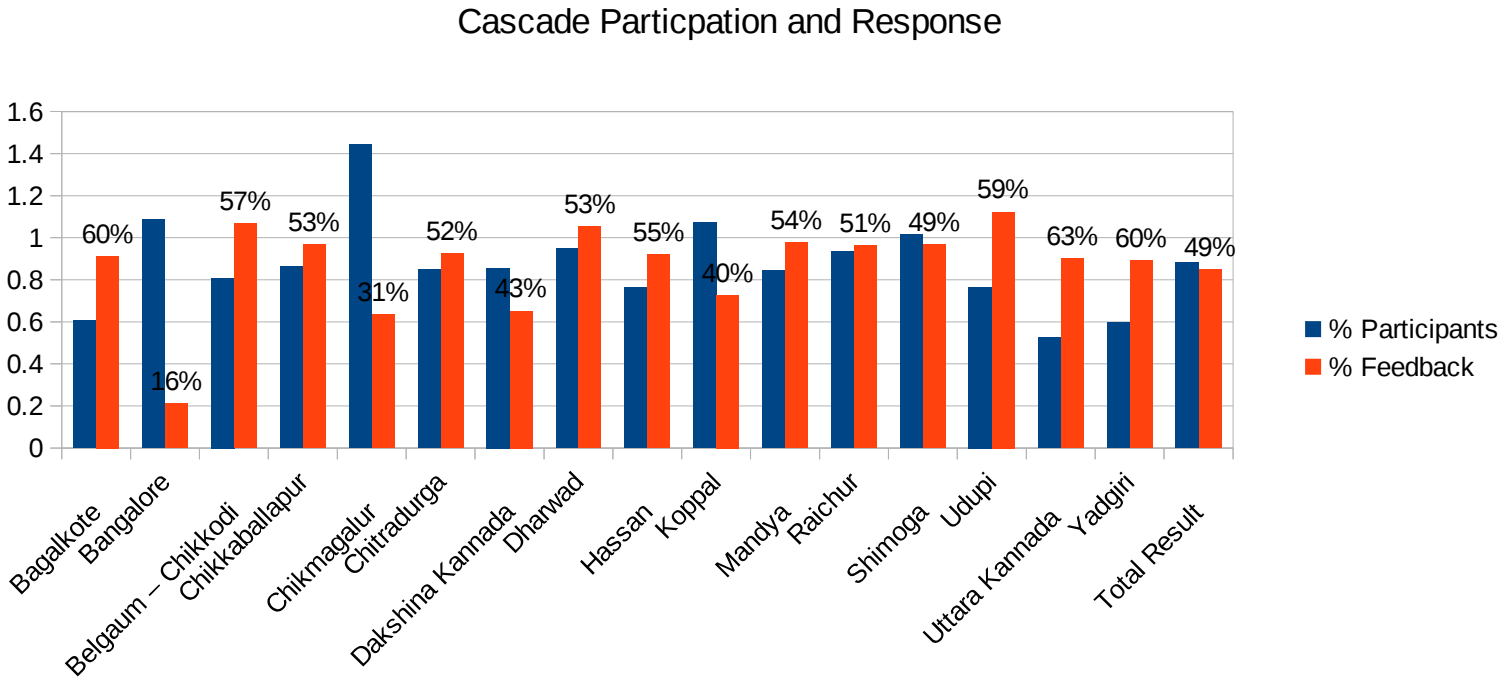
District	# Responses	# Participants	# Schools
Bagalkote	21	23	38
Bangalore	8	38	35
Belgaum-Chikkodi	77	72	89
Chikkaballapur	31	32	37
Chikmagalur	56	88	61
Chitradurga	37	40	47
Dakshina Kannada	58	89	104
Dharwad	20	19	20
Hassan	80	87	114
Koppala	64	88	82
Mandya	84	86	102
Raichur	28	29	31
Shimoga	60	62	61
Udupi	55	49	64
Uttara Kannada	9	10	19
Yadgir	25	28	47
Total Result	**713**	**840**	**951**

1.2 Percentage of Participants and Number of Feedback Responses

District	% Participants	% Feedback
Bagalkote	60.53%	91.30%
Bangalore	108.57%	21.05%
Belgaum – Chikkodi	80.90%	106.94%
Chikkaballapur	86.49%	96.88%
Chikmagalur	144.26%	63.64%
Chitradurga	85.11%	92.50%
Dakshina Kannada	85.58%	65.17%
Dharwad	95.00%	105.26%
Hassan	76.32%	91.95%
Koppal	107.32%	72.73%
Mandya	84.31%	97.67%
Raichur	93.55%	96.55%
Shimoga	101.64%	96.77%
Udupi	76.56%	112.24%
Uttara Kannada	52.63%	90.00%
Yadgiri	59.57%	89.29%
Total Result	**88.33%**	**84.88%**

1.2.1 Comments:

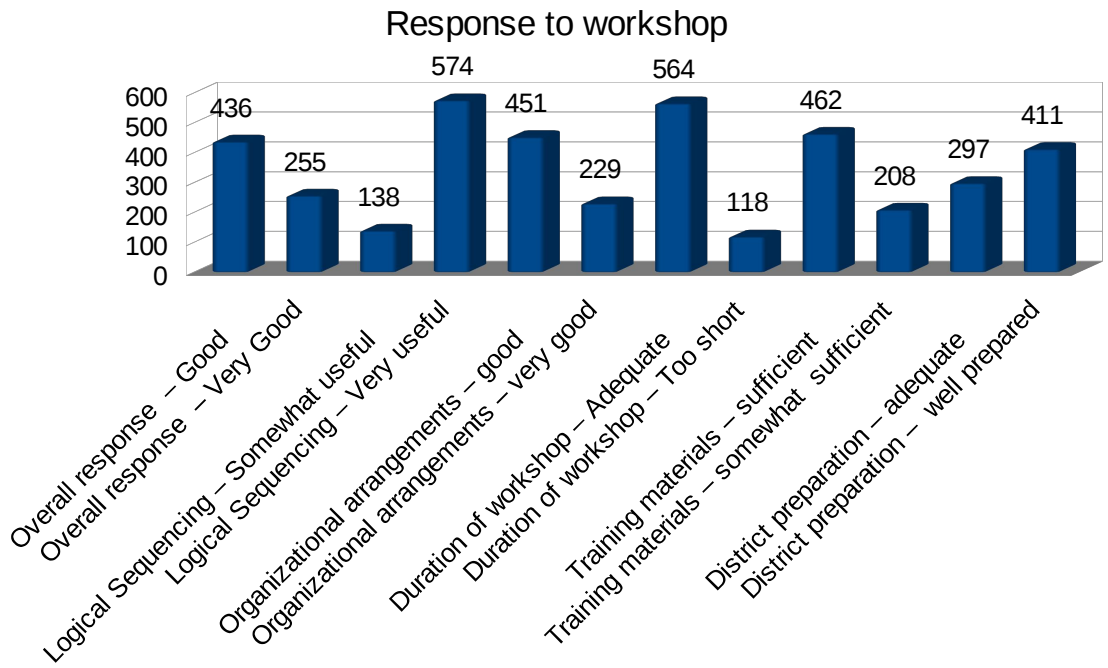
The cascade participation cannot be determined only from this data. In many cases, due to several infrastructure constraints, all participants have not filled the forms. In general, upto 15% less is to be expected for reasons of absenteeism, vacant posts, teachers not being relieved, etc. The total number of participants is 840 which is about 88% of the total number of posts. Of the people who have filled the participant form, about 85% have filled the responses. In some cases, this is over 100% because not all the participants might have filled their information but they might have filled feedback forms.


Cascade Particpation and Response
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
60%
16%
57%
53%
31%
52%
43%
53%
55%
40%
54%
51%
49%
59%
63%
60%
49%
Bagalkote
Bangalore
Belgaum – Chikkodi
Chikkaballapur
Chikmagalur
Chitradurga
Dakshina Kannada
Dharwad
Hassan
Koppal
Mandya
Raichur
Shimoga
Udupi
Uttara Kannada
Yadgiri
Total Result
% Participants
% Feedback

2 Table 2: Overall response to workshop

2.1 Parameters of participant response to workshop

	Overall response – Good	Overall response – Very Good	Logical Sequencing – Somewhat useful	Logical Sequencing – Very useful	Organizational arrangements – good	Organizati-onal arrangements – very good	Duration of workshop – Adequate	Duration of workshop – Too short	Training materials – sufficient	Training materials – somewhat sufficient	District preparation – adequate	District preparation – well prepared
Bagalkote	21			21	20		19	2	17	4	16	5
Bangalore	7	1	1	7	6	1	8	0	7	1	4	4
Belgaum-Chikkodi	30	45	7	70	33	43	56	20	55	21	21	56
Chikkaballapur	22	8	9	22	18	12	24	5	13	16	16	14
Chikmagalur	25	31	6	50	23	32	45	9	46	7	18	38
Chitradurga	28	7	12	25	27	9	32	5	16	16	21	16
Dakshina Kannada	34	24	8	50	41	17	46	2	36	14	20	38
Dharwad	14	4	14	6	10	7	16	4	11	6	13	7
Hassan	64	15	18	62	60	16	73	7	49	27	38	42
Koppala	38	23	17	47	34	21	45	16	39	23	33	30
Mandya	65	14	20	64	62	18	51	27	44	33	40	44
Raichur	13	12	6	21	24	3	26	2	19	4	11	17
Shimoga	28	32	5	55	43	17	49	7	42	16	19	40
Udupi	25	29	4	51	30	25	45	8	50	5	13	42
Uttara Kannada	6	3	1	8	6	3	8	1	6	3	2	7
Yadgir	16	7	10	15	14	5	21	3	12	12	12	11
Total Result	436	255	138	574	451	229	564	118	462	208	297	411



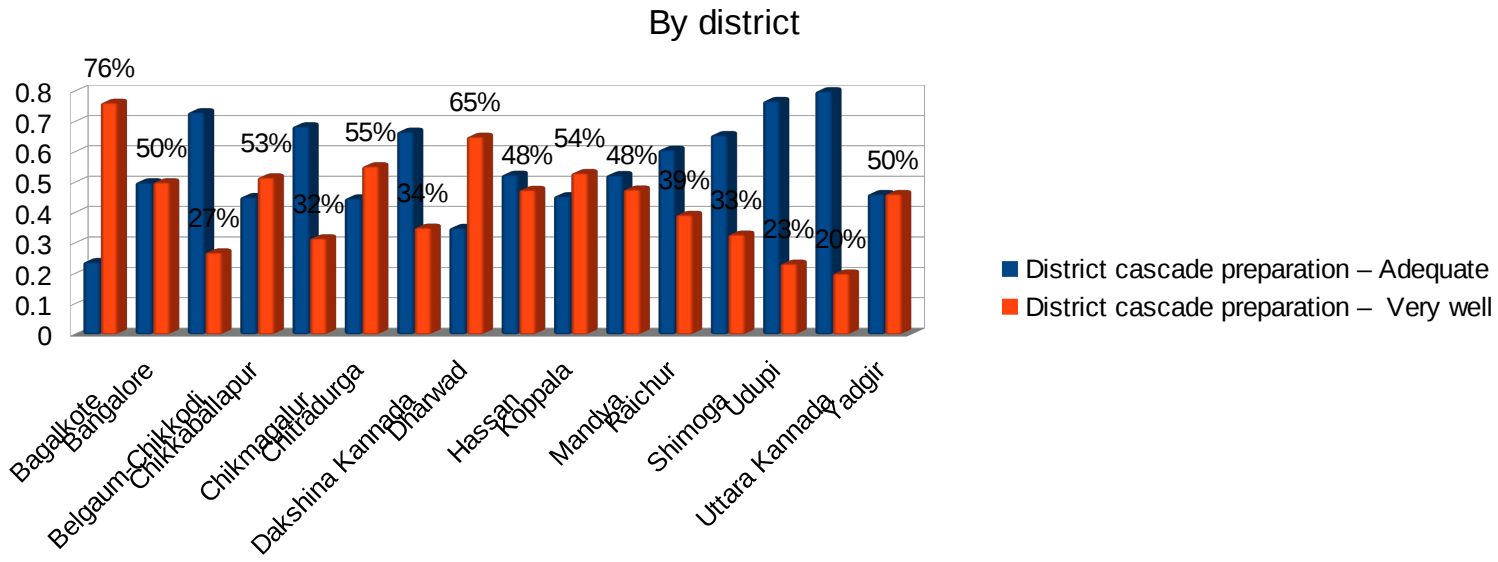
2.1.1 Comments

Overall the responses from participants were as follows:

- Useful training for teachers; innovative and good thinking
- Infrastructure should be improved at venues and at schools; Internet in schools is a must
- KOER was seen as a useful resource
- Training should be in beginning of academic year

2.2 Cascade preparation by district

District	District preparation – adequate	District preparation – well prepared
Bagalkote	75.00%	25.00%
Bangalore	70.00%	30.00%
Belgaum – Chikkodi	43.42%	56.58%
Chikkaballapur	69.23%	30.77%
Chikmagalur	46.15%	53.85%
Chitradurga	0.00%	100.00%
Dakshina Kannada	40.30%	59.70%
Dharwad	50.00%	50.00%
Hassan	36.47%	63.53%
Koppal	45.76%	54.24%
Mandya	36.36%	63.64%
Raichur	50.00%	50.00%
Shimoga	34.55%	65.45%
Udupi	17.54%	82.46%
Yadgiri	52.63%	47.37%
Total Result	**42.90%**	**57.10%**

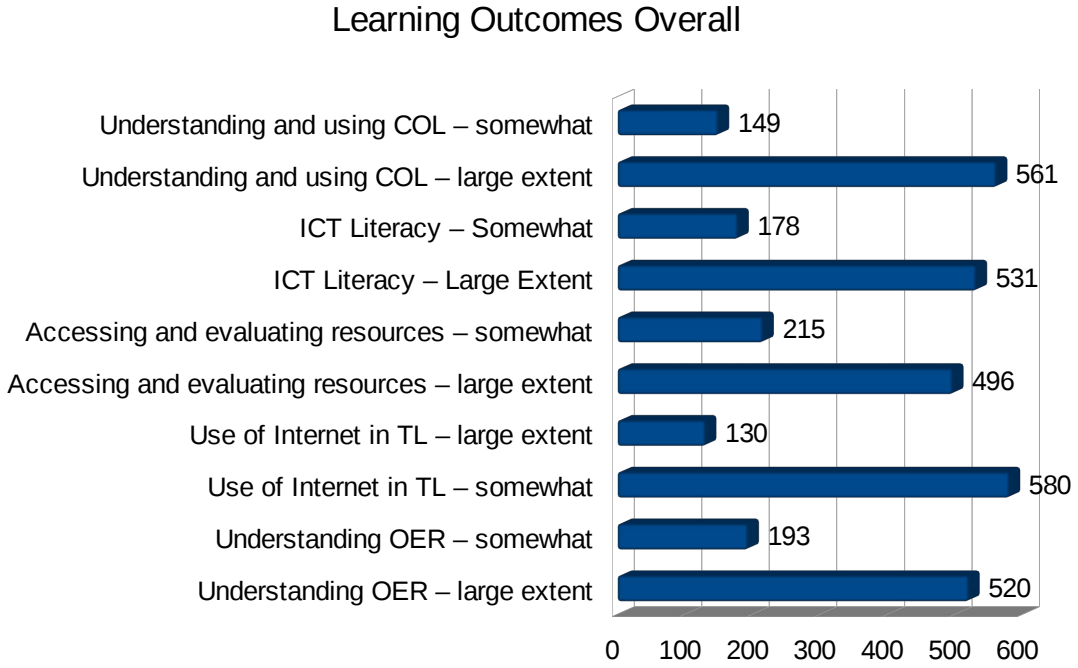


2.2.1 Comments:

We have discussed this with the resource persons. This ranking has been a function of how many participants were there with respect to available computers, availability and quality of internet and the lead time for preparation. This also varies by subject and reflects the strengths and experiences of the individual RPs. 76% of Bagalkote felt that the cascade was well prepared, inspite of infrastructure challenges, multiple venues, etc. Less than 35% of participants have ranked the cascade as well prepared in Belgaum Chikkodi, Chikmagalur, Dakshina Kannada, Shimoga, Udupi, Uttara Kannada.

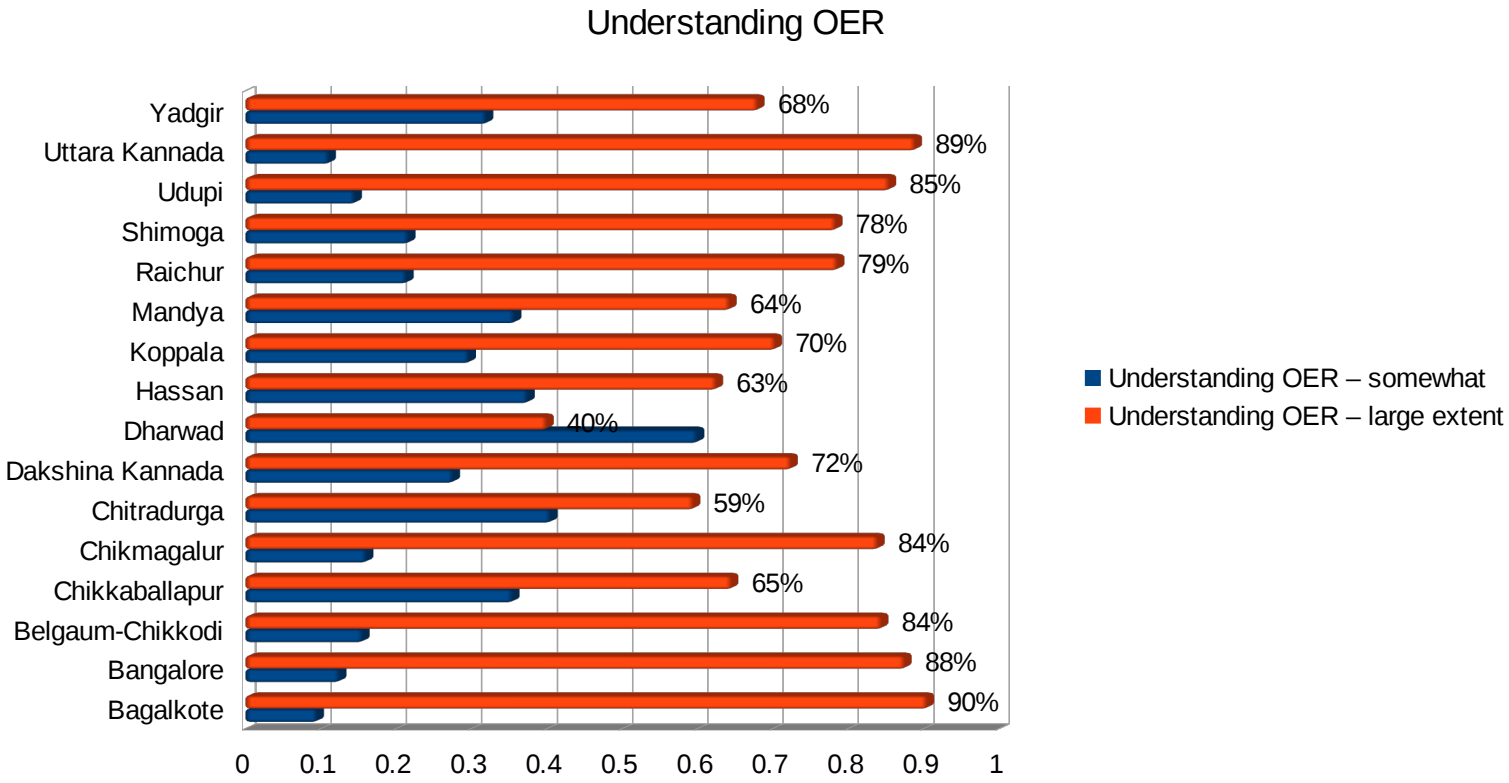
3 Table 3: Learning Outcomes from workshop

	ICT Literacy – Somewhat	ICT Literacy – Large Extent	Understanding OER – somewhat	Understanding OER – large extent	Accessing and evaluating resources – somewhat	Accessing and evaluating resources – large extent	Internet for learning – somewhat	Internet for learning – large extent	Understanding and using COL – somewhat	Understanding and using COL – large extent
Bagalkote	3	18	2	19	2	19	21	0	2	19
Bangalore	1	7	1	7	2	6	7	1	2	6
Belgaum-Chikkodi	12	65	12	65	16	61	64	13	9	68
Chikkaballapur	11	20	11	20	11	20	29	2	5	26
Chikmagalur	5	51	9	47	6	50	48	8	8	48
Chitradurga	13	24	15	22	15	22	33	4	5	32
Dakshina Kannada	9	49	16	42	16	42	49	9	12	46
Dharwad	10	8	12	8	13	7	16	4	12	8
Hassan	23	57	30	50	30	49	62	18	31	49
Koppala	17	47	19	45	17	47	51	11	8	56
Mandya	38	44	30	54	43	40	56	28	24	59
Raichur	6	22	6	22	7	21	24	4	4	24
Shimoga	10	50	13	47	15	45	51	9	8	52
Udupi	11	44	8	47	10	45	47	8	7	48
Uttara Kannada	1	8	1	8	1	8	7	2	3	6
Yadgir	8	17	8	17	11	14	15	9	9	14
Total	**178**	**531**	**193**	**520**	**215**	**496**	**580**	**130**	**149**	**561**


Learning Outcomes Overall
Understanding and using COL – somewhat
149
Understanding and using COL – large extent
561
ICT Literacy – Somewhat
178
ICT Literacy – Large Extent
531
Accessing and evaluating resources – somewhat
215
Accessing and evaluating resources – large extent
496
Use of Internet in TL – large extent
130
Use of Internet in TL – somewhat
580
Understanding OER – somewhat
193
Understanding OER – large extent
520
0
100
200
300
400
500
600

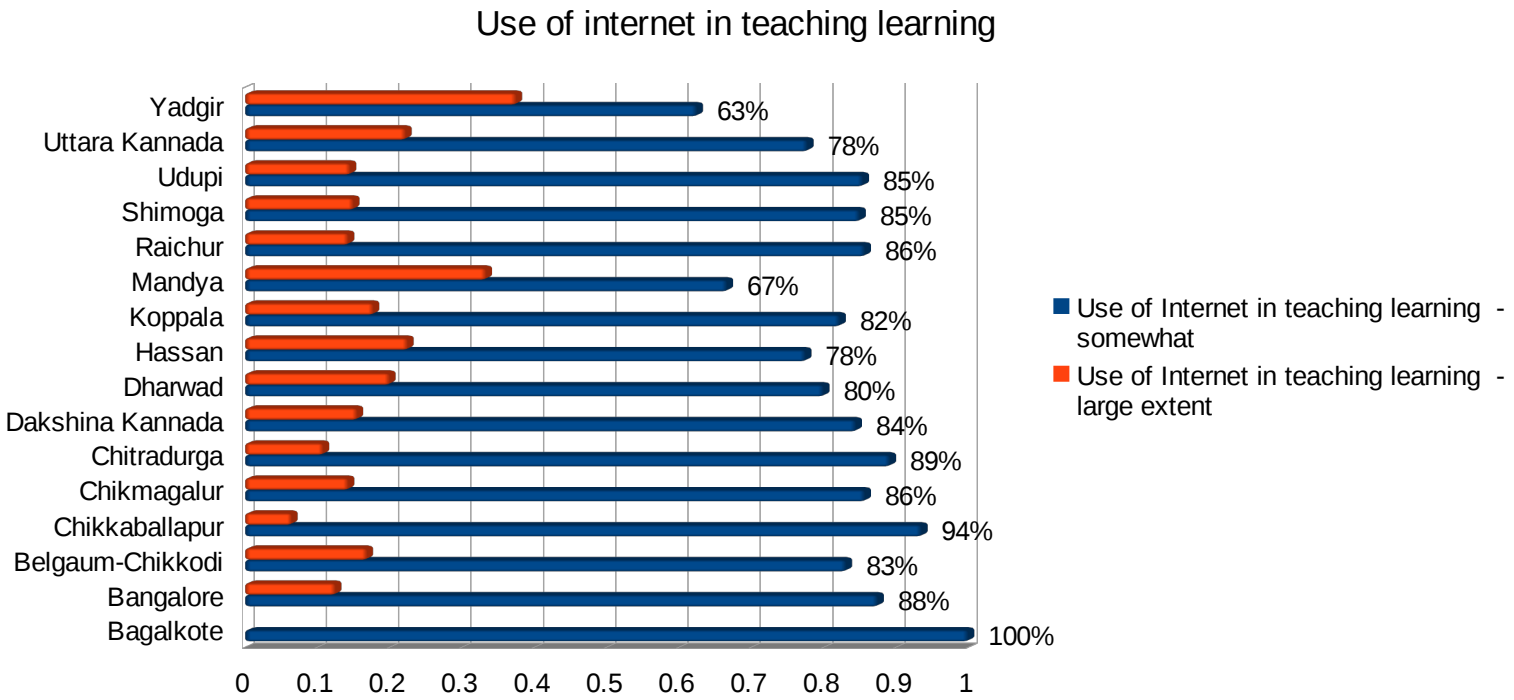
3.1 Understanding OER

	Understanding OER – large extent	Understanding OER – somewhat	Understanding OER – large extent	Understanding OER – somewhat
Bagalkote	19	2	90.48%	9.52%
Bangalore	7	1	87.50%	12.50%
Belgaum-Chikkodi	65	12	84.42%	15.58%
Chikkaballapur	20	11	64.52%	35.48%
Chikmagalur	47	9	83.93%	16.07%
Chitradurga	22	15	59.46%	40.54%
Dakshina Kannada	42	16	72.41%	27.59%
Dharwad	8	12	40.00%	60.00%
Hassan	50	30	62.50%	37.50%
Koppala	45	19	70.31%	29.69%
Mandya	54	30	64.29%	35.71%
Raichur	22	6	78.57%	21.43%
Shimoga	47	13	78.33%	21.67%
Udupi	47	8	85.45%	14.55%
Uttara Kannada	8	1	88.89%	11.11%
Yadgir	17	8	68.00%	32.00%


Understanding OER
Yadgir
Uttara Kannada
Udupi
Shimoga
Raichur
Mandya
Koppala
Hassan
Dharwad
Dakshina Kannada
Chitradurga
Chikmagalur
Chikkaballapur
Belgaum-Chikkodi
Bangalore
Bagalkote
68%
89%
85%
78%
79%
64%
70%
63%
40%
72%
59%
84%
65%
84%
88%
90%
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Understanding OER – somewhat
Understanding OER – large extent

3.2 Use of Internet for teaching and learning

	Use of Internet in teaching learning - somewhat	Use of Internet in teaching learning - large extent	Use of Internet in teaching learning - somewhat	Use of Internet in teaching learning - large extent
Bagalkote	21	0	100.00%	0.00%
Bangalore	7	1	87.50%	12.50%
Belgaum-Chikkodi	64	13	83.12%	16.88%
Chikkaballapur	29	2	93.55%	6.45%
Chikmagalur	48	8	85.71%	14.29%
Chitradurga	33	4	89.19%	10.81%
Dakshina Kannada	49	9	84.48%	15.52%
Dharwad	16	4	80.00%	20.00%
Hassan	62	18	77.50%	22.50%
Koppala	51	11	82.26%	17.74%
Mandya	56	28	66.67%	33.33%
Raichur	24	4	85.71%	14.29%
Shimoga	51	9	85.00%	15.00%
Udupi	47	8	85.45%	14.55%
Uttara Kannada	7	2	77.78%	22.22%
Yadgir	15	9	62.50%	37.50%

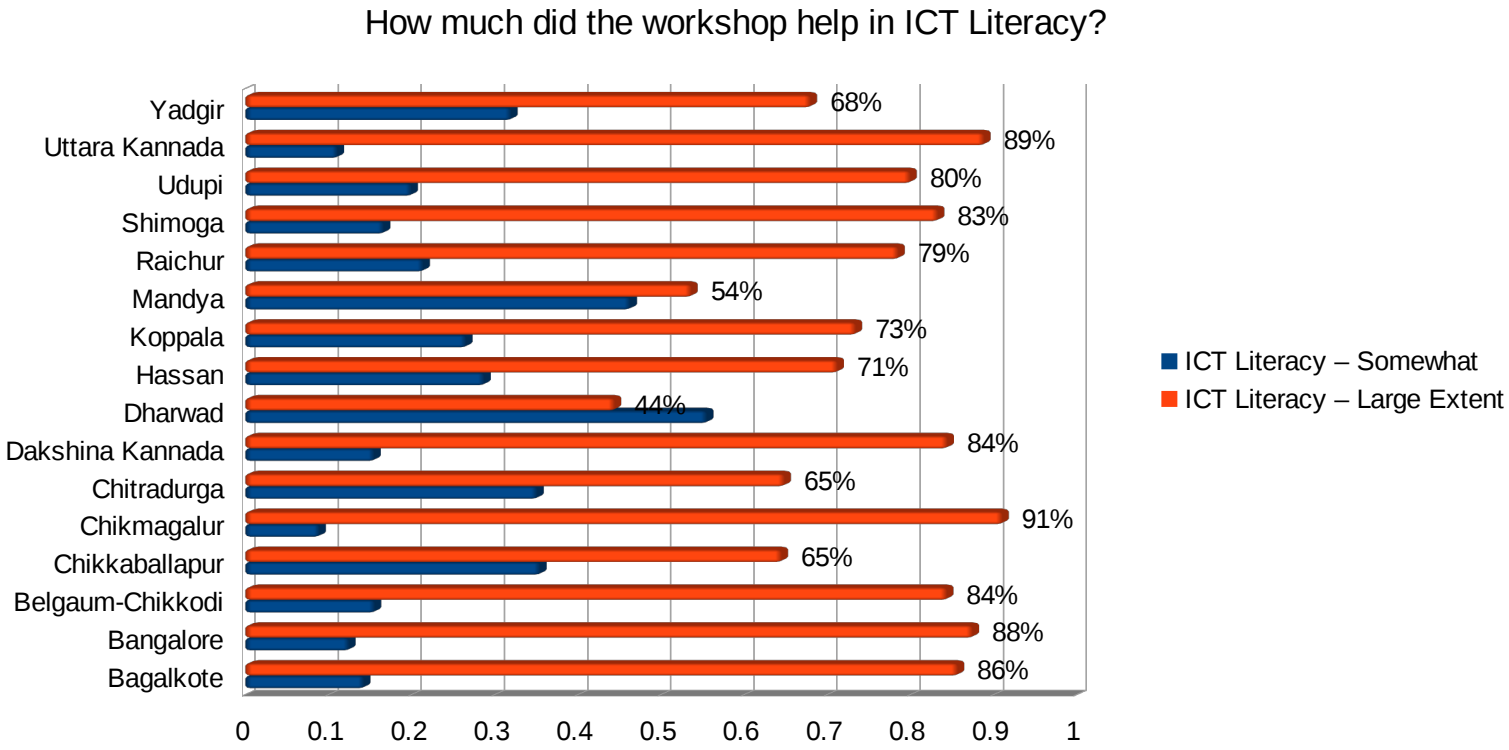


3.2.1 Comments

Most teachers have expressed a somewhat lower level of understanding of the use of Internet, as compared with mathematics. It is possible that teachers did not understand the question and/or did not make the connection between Internet and KOER/ STF/ web-based interactions.

3.3 ICT Literacy

	ICT Literacy – Somewhat	ICT Literacy – Large Extent	ICT Literacy – Somewhat	ICT Literacy – Large Extent
Bagalkote	3	18	14.29%	85.71%
Bangalore	1	7	12.50%	87.50%
Belgaum-Chikkodi	12	65	15.58%	84.42%
Chikkaballapur	11	20	35.48%	64.52%
Chikmagalur	5	51	8.93%	91.07%
Chitradurga	13	24	35.14%	64.86%
Dakshina Kannada	9	49	15.52%	84.48%
Dharwad	10	8	55.56%	44.44%
Hassan	23	57	28.75%	71.25%
Koppala	17	47	26.56%	73.44%
Mandya	38	44	46.34%	53.66%
Raichur	6	22	21.43%	78.57%
Shimoga	10	50	16.67%	83.33%
Udupi	11	44	20.00%	80.00%
Uttara Kannada	1	8	11.11%	88.89%
Yadgir	8	17	32.00%	68.00%



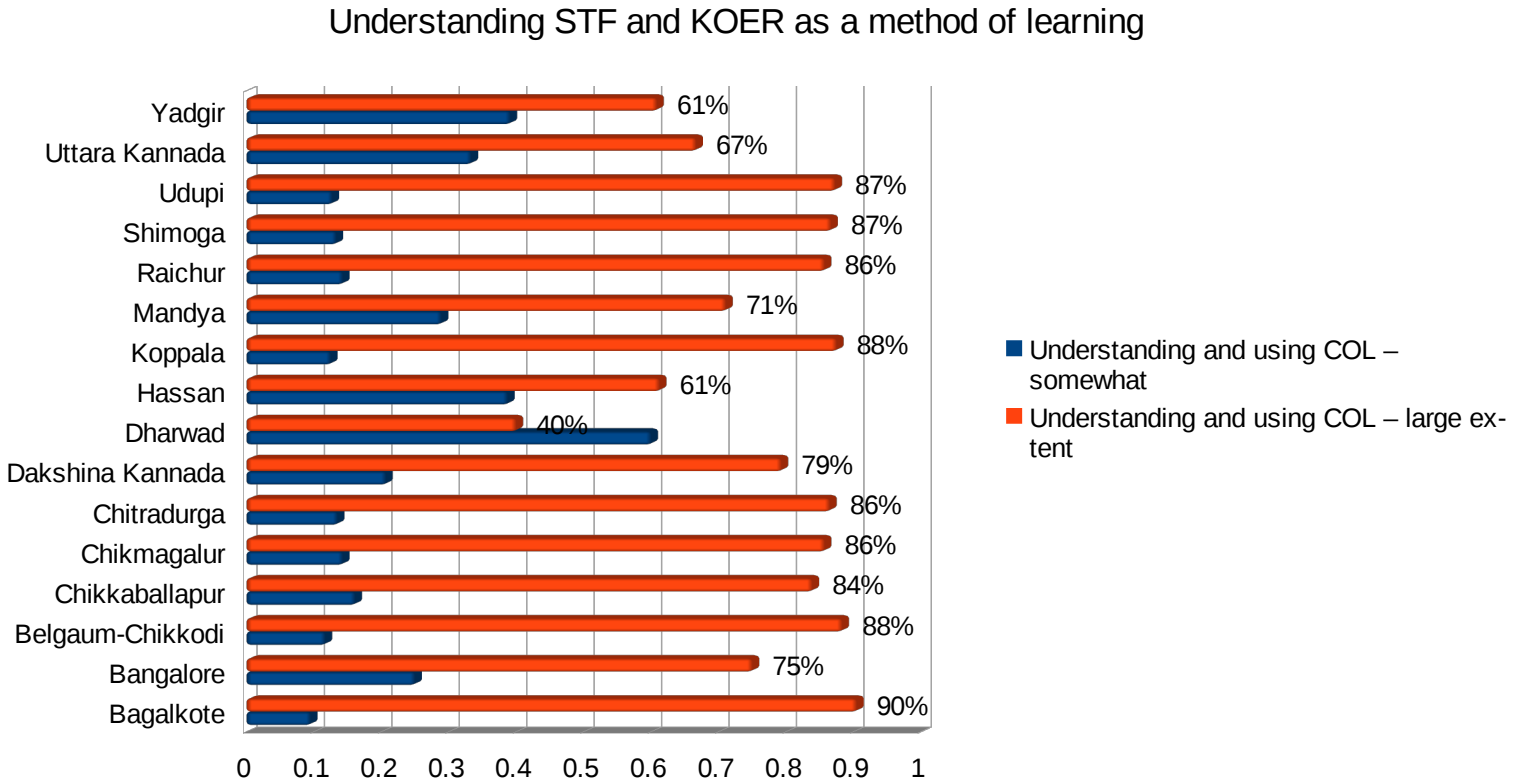
3.3.1 Comments

Many resource persons have made adjustments to the relative weights of the various ICT elements. Two factors to be kept in mind:

1. While this was not the first year of STF in these districts, in many districts, quite a number of participants were new to the STF training. This results in the RPs having to make adjustments to the technical sessions. The agenda has been made more basic in some cases, while they have gone beyond the agenda and explored new tools in some districts. Learning to work with video editing was a major component of computer training and resource persons shared that teachers enjoyed this a lot.
2. There is no absolute standard by which this has been measured. Participants have measured this with respect to their own technology skills and learning with respect to that.

3.4 Understanding of COL

	Understanding and using COL – somewhat	Understanding and using COL – large extent	Understanding and using COL – somewhat	Understanding and using COL – large extent
Bagalkote	2	19	9.52%	90.48%
Bangalore	2	6	25.00%	75.00%
Belgaum-Chikkodi	9	68	11.69%	88.31%
Chikkaballapur	5	26	16.13%	83.87%
Chikmagalur	8	48	14.29%	85.71%
Chitradurga	5	32	13.51%	86.49%
Dakshina Kannada	12	46	20.69%	79.31%
Dharwad	12	8	60.00%	40.00%
Hassan	31	49	38.75%	61.25%
Koppala	8	56	12.50%	87.50%
Mandya	24	59	28.92%	71.08%
Raichur	4	24	14.29%	85.71%
Shimoga	8	52	13.33%	86.67%
Udupi	7	48	12.73%	87.27%
Uttara Kannada	3	6	33.33%	66.67%
Yadgir	9	14	39.13%	60.87%



3.4.1 Comments

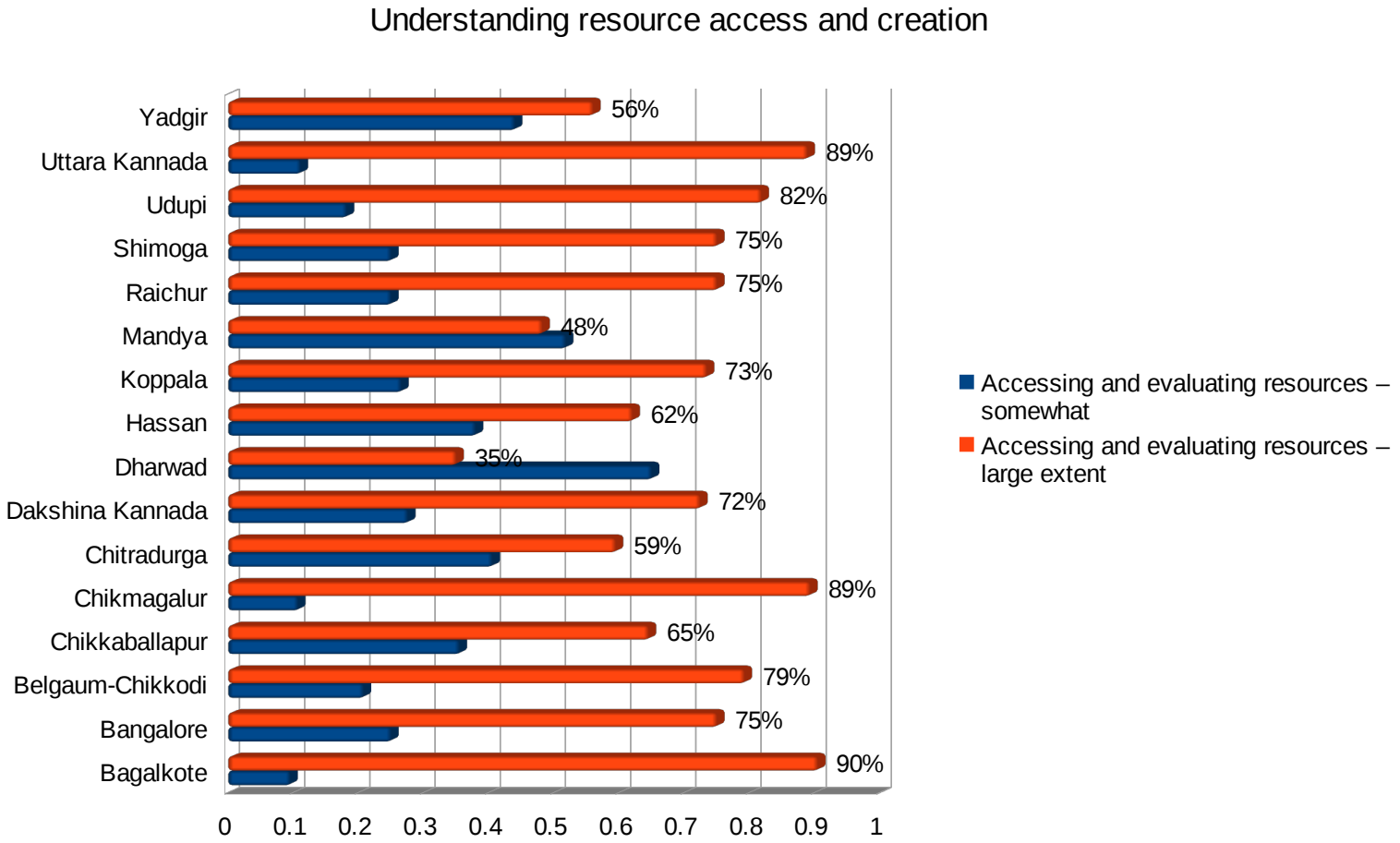
The principles of Teacher Education mentioned in the National Curriculum Framework Position Paper for Teacher Education include an ICT-enabled method of continuous learning, creation of fora for teachers to interact as well as creation of materials and resources for teachers to engage with. The STF-KOER training programme has been designed with these principles in mind. In addition, the programme has been designed with the objective of

building Technological Pedagogical Content Knowledge[1] (TPACK) in teachers. Teachers are used to teaching-learning using only textbook and they need to use ICTs in their own learning. When they learn using different materials and tools, they will also be able to teach better. Obviously this requires teachers to develop new skills of interacting, reflecting and creating. The COL is thus an objective as well as a process of Teacher Professional Development. Teachers' understanding of this will reflect how they approach KOER as well on a continuing basis.

3.5 Understanding resource access and creation

	Accessing and evaluating resources – somewhat	Accessing and evaluating resources – large extent	Accessing and evaluating resources – somewhat	Accessing and evaluating resources – large extent
Bagalkote	2	19	9.52%	90.48%
Bangalore	2	6	25.00%	75.00%
Belgaum-Chikkodi	16	61	20.78%	79.22%
Chikkaballapur	11	20	35.48%	64.52%
Chikmagalur	6	50	10.71%	89.29%
Chitradurga	15	22	40.54%	59.46%
Dakshina Kannada	16	42	27.59%	72.41%
Dharwad	13	7	65.00%	35.00%
Hassan	30	49	37.97%	62.03%
Koppala	17	47	26.56%	73.44%
Mandya	43	40	51.81%	48.19%
Raichur	7	21	25.00%	75.00%
Shimoga	15	45	25.00%	75.00%
Udupi	10	45	18.18%	81.82%
Uttara Kannada	1	8	11.11%	88.89%
Yadgir	11	14	44.00%	56.00%

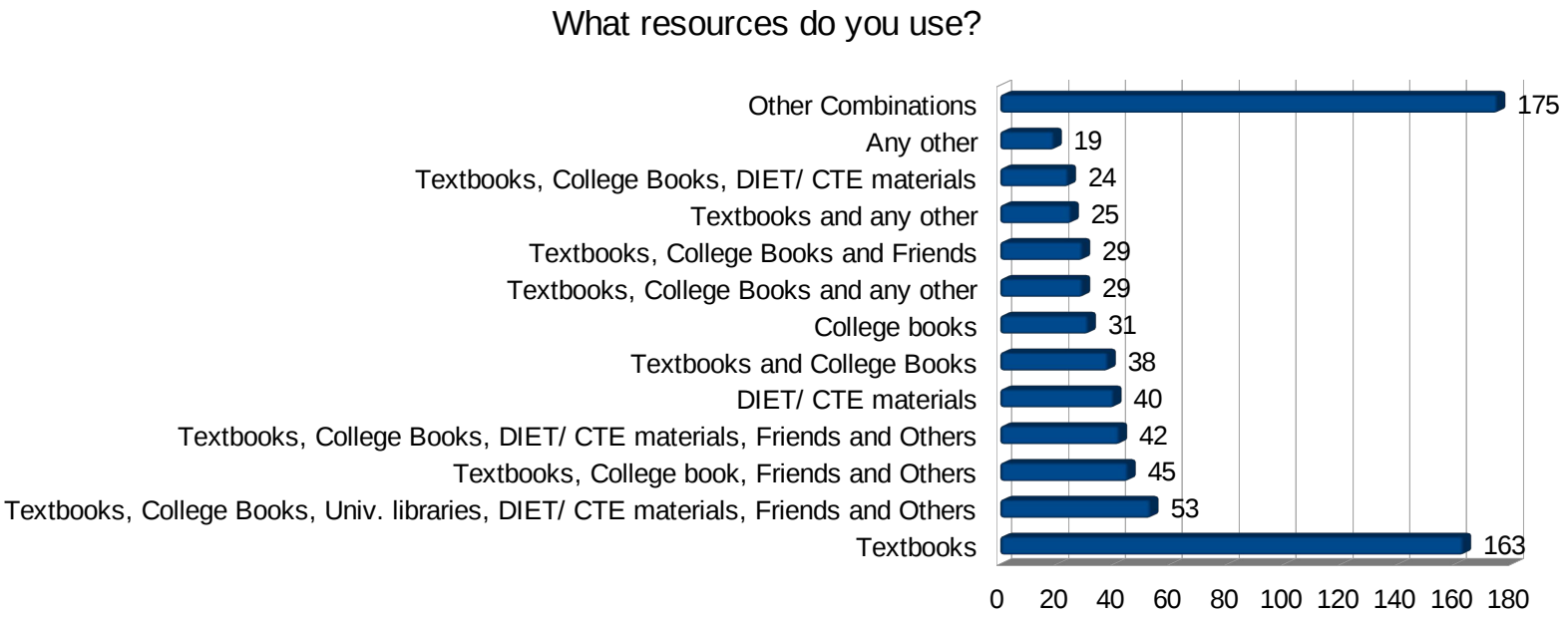
1 The TPACK framework has been developed from the result of an on-going design experiment being conducted by Matt Koehler & Punya Mishra at Michigan State University and is very relevant to integration of ICTs into teaching-learning.


Understanding resource access and creation
Yadgir
Uttara Kannada
Udupi
Shimoga
Raichur
Mandya
Koppala
Hassan
Dharwad
Dakshina Kannada
Chitradurga
Chikmagalur
Chikkaballapur
Belgaum-Chikkodi
Bangalore
Bagalkote
56%
89%
82%
75%
75%
48%
73%
62%
35%
72%
59%
89%
65%
79%
75%
90%
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Accessing and evaluating resources – somewhat
Accessing and evaluating resources – large extent

4 Table 4: Teachers' Resource Use

4.1 What resources do teachers use most?

Source	Count	Percentage
Textbooks	163	22.86%
Textbooks, College Books, Univ. libraries, DIET/ CTE materials, Friends and Others	53	7.43%
Textbooks, College book, Friends and Others	45	6.31%
Textbooks, College Books, DIET/ CTE materials, Friends and Others	42	5.89%
DIET/ CTE materials	40	5.61%
Textbooks and College Books	38	5.33%
College books	31	4.35%
Textbooks, College Books and any other	29	4.07%
Textbooks, College Books and Friends	29	4.07%
Textbooks and any other	25	3.51%
Textbooks, College Books, DIET/ CTE materials	24	3.37%
Any other	19	2.66%
Other Combinations	175	24.54%

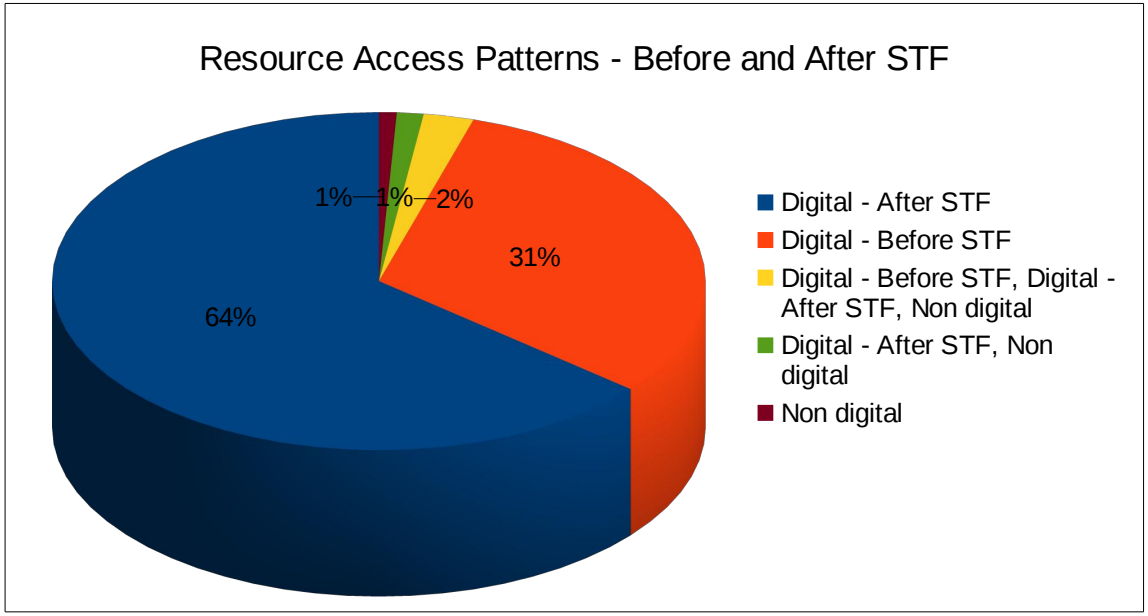


4.1.1 Comments

The objective of this question was to understand their current resource use patterns. Textbooks remained the single most important resource used by teachers in their preparation for classes. The others reflect various combinations of resources and and of the 175 such combinations, 141 still include the textbooks.

4.2 The role of STF in their resource access patterns

Digital - After STF	437
Digital - Before STF	148
Digital - Before STF, Digital - After STF	66
Digital - Before STF, Digital - After STF, Non digital	17
Digital - After STF, Non digital	9
Non digital	6
	683



* This question has not been formulated correctly. A person using resource before STF is not likely to stop after STF. For purpose of understanding the role of STF in introducing teachers to resources, this number has been added to the group of teachers who were accessing digital resources before the STF.

4.3 What kind of digital resource do you use?

The purpose of this question was to understand the form in which teachers look for content. We were attempting to identify patterns of resource use in terms of textual, audio visual, images, etc.

Websites for information	132	21.53%
Photographs-, Videos, Websites for information, Quiz questions, Question papers	170	27.73%
Photographs, Videos, Websites for information	146	23.82%
Video	50	8.16%
Photographs, Videos, Websites for information, Question papers	27	4.40%
Photographs, Videos, Websites for information, Quiz questions	25	4.08%
Photographs, Videos	32	5.22%
Videos, Websites for Information	31	5.06%

The participants may not have answered these questions as mutually exclusive categories. Question papers, videos, etc are also part of websites. The intent behind identifying websites was to focus on textual information. The responses probably do not reflect that. What can be concluded is that about 13% look only for photographs and videos when they access materials on the internet.

4.4 The content teachers look for and their classroom needs

There were two questions asked to understand:

1. what types of content do teachers look for
2. what are the areas in classroom teaching-learning that they need resources for

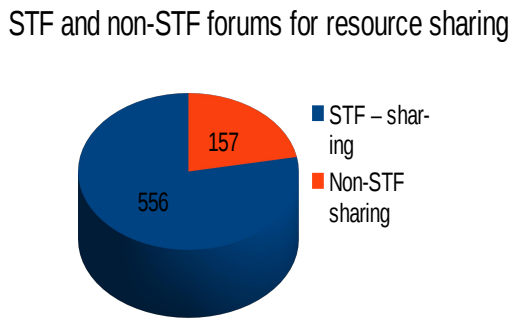
The content could be in the form of facts and information, pictures, videos, ideas for teaching in classroom(lesson plans), activities, project ideas, practice material for students, assessment ideas, and games. Areas in classroom teaching-learning included help with science concepts, setting up of science lab, games, building model, games, assessments, quizzes, question banks.

From the responses, it looks like most of the teachers look for content in all the areas we have described, though about 15% of the respondents said they were looking only for resources for setting up a science lab. The requirements for teaching-learning are also in all the areas mentioned.

4.5 Teachers engagement with resource

This question was asked to understand teachers' resource access and collaboration patterns. Most teachers have indicated STF as one of their patterns. Most teachers have been using the STF as a method to share (give or receive resources). To understand other methods of sharing, we also compared STF and non-STF methods of resource sharing.

Share with STF	202	28.33%
Share with friends, share with STF, cluster meetings and come together to make materials	128	17.95%
Share with friends, share with STF and come together to make materials	62	8.70%
Share with friends and share with STF	38	5.33%
Share with STF and come together to make materials	63	8.84%
Share with STF and cluster meetings	41	5.75%
Share with STF, cluster meetings and come together to make materials	22	3.09%
Come together to make materials	87	12.20%
Share with friends	21	2.95%
Others	49	6.87%



5 Table 5: Engagement with KOER

The questions in this section were asked to understand their engagement with the idea of KOER, and how they see themselves as participants in this process.

5.1 Need for KOER

5.1.1 Comments

The questions in this section were designed to understand if there is a strong need for KOER or is it just a good to have thing. The questions were designed as check boxes and this seems to have caused some confusion in the way teachers have recorded responses. However, largely the teachers have expressed that it is very much needed.

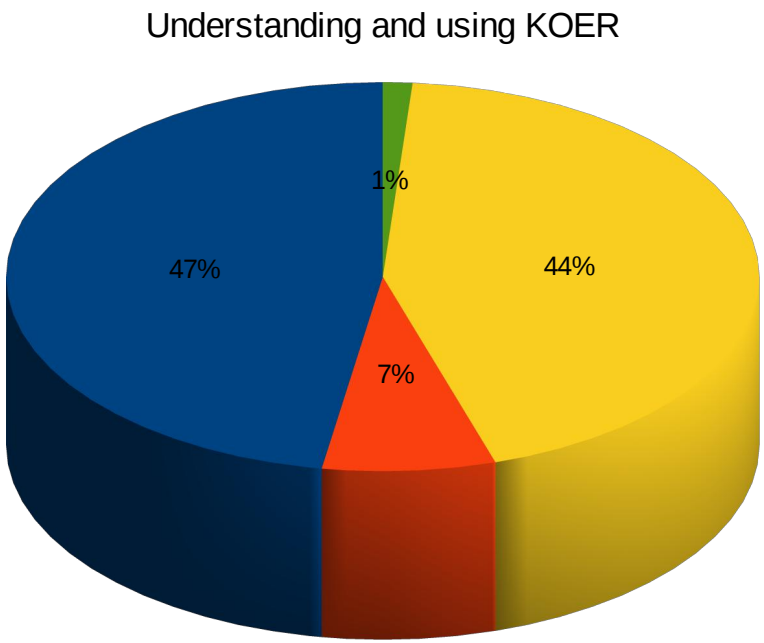
Good if it is there	23.28%
Not sure	0.14%
Very much needed	71.39%
Very much needed, good if it is there	5.05%
Very much needed, Not sure	0.14%

5.2 Ease of use

5.2.1 Comments

Teachers were asked about how easy (or not) it was to engage with KOER. This was with an objective to understand how they saw the learning path in a collaborative resource creation model. Again, due to the check boxes, some confusion is seen in the responses. However, half the teachers have expressed that it is easy and half have expressed it needs practice, but can be implemented.

Easy to work with	338	47.41%
Easy to work with; needs practice but can work	49	6.87%
Needs practice but can work	311	43.62%



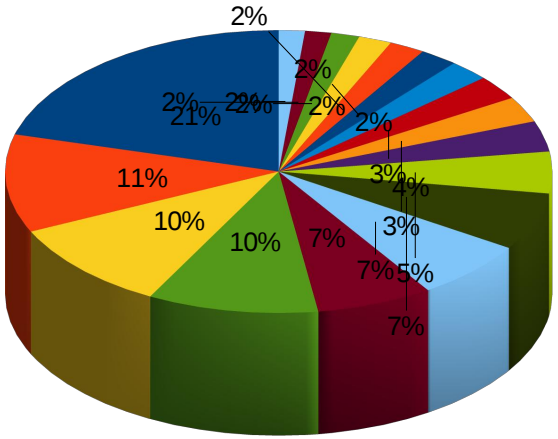
5.3 How do you see your participation in KOER

Use of KOER	Count	%
Receiving and sharing resources, using resources and give feedback, making and sharing resources for KOER, training teachers to make KOER a large group	148	20.76%
Other combinations	80	11.22%
Using resources and giving feedback	73	10.24%
Receiving resources, sharing resources made in class, making and sharing resources for KOER, using resources and giving feedback	72	10.10%
Sharing resources made in class	49	6.87%
Receiving resources	48	6.73%
Making and sharing resources for KOER	47	6.59%
Receiving resources, sharing resources made in class, using resources and give feedback	34	4.77%
Using resources and giving feedback and sharing resources made in class	25	3.51%
Receiving resources and using resources and feedback	21	2.95%
Receiving and sharing resources made in class	20	2.81%
Receiving and sharing resources, making and sharing resources for KOER	17	2.38%
Using resources and giving feedback, sharing resources made in class, making and sharing resources for KOER	16	2.24%
Receiving resources, sharing resources made in class, using resources and give feedback and training teachers to make KOER a large group	15	2.10%
Receiving and sharing resources, making and sharing resources and training teachers to make KOER a large group	14	1.96%
Training teachers to make KOER a large group	12	1.68%
Receiving resources, using resources and giving feedback, sharing resources made in class, making and sharing resources for KOER, training more teachers to make KOER a large group	11	1.54%
Receiving resources, using resources and giving feedback, making and sharing resources for KOER	11	1.54%
	713	100.00%

5.3.1 Comments

Teachers have to reimagine themselves as creators/ collaborators and not consumers. They should also develop skills to move from a one-time workshop, point-in-time model to a model of continuous learning enabled by a peer community. It is useful to examine the teachers' response to this question in conjunction with whether the workshop enabled them to understand about a Community of Learning. See graph on next page.

How do you see your participation in KOER



- Receiving/ sharing resources, using resources and give feedback, making/sharing resources for KOER, training teachers
- Other combinations
- Using resources and giving feedback
- Receiving/ sharing resources made in class, making/ sharing resources, using resources/ giving feedback
- Sharing resources made in class
- Receiving resources
- Making and sharing resources for KOER
- Receiving resources, sharing resources made in class, using resources and give feedback
- Using resources and giving feedback and sharing resources made in class
- Receiving resources and using resources and feedback
- Receiving and sharing resources made in class
- Receiving and sharing resources, making and sharing resources for KOER
- Using resources and giving feedback, sharing resources made in class, making / sharing resources
- Receiving/ sharing resources, using resources / give feedback and training teachers
- Receiving and sharing resources, making and sharing resources and training teachers to make KOER a large group
- Training teachers to make KOER a large group
- Receiving resources, using resources/ giving feedback, sharing resources, making/ sharing resources, training more teachers
- Receiving resources, using resources and giving feedback, making and sharing resources for KOER