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## **Development of 21st Century Skills through Curricular Activities among School-going Adolescents in Madhya Pradesh: From Students' Perspective**

**Rashmi Sharma**, Associate Professor, RIE, NCERT, Bhopal, India. e-mail: [rashmiriebpl@gmail.com](mailto:rashmiriebpl@gmail.com)

Corresponding Author: Rashmi Sharma, e-mail: [rashmiriebpl@gmail.com](mailto:rashmiriebpl@gmail.com)

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**Abstract:** This study was conducted with the major objective to seek the perception of secondary school students regarding development of 10 identified 21<sup>st</sup> century skills through curricular activities organized in the schools of Madhya Pradesh. Descriptive method was employed in carrying out the study. The population of the study consisted of all the school going adolescents of all the secondary schools of Madhya Pradesh and the sample for the study consisted of eight (08) secondary schools, including four rural and four urban schools, selected following purposive sampling technique from four districts of Madhya Pradesh, viz., Bhopal, Chattarpur, Betul and Jabalpur. The sample of subjects included 614 students studying in classes 9 and 10 in the schools included in the sample. A four-point scale, Focus Group Discussion (FGD) guideline developed by the researcher and field notes were used for the collection of data from the students. The data were analysed with the help of simple quantitative technique of percentage and qualitative technique of thick description. The results of the study revealed mixed perception of students, although majority of the students are of opinion that 21st century skills, as a whole and that in respect of 10 identified 21st century skills, are developed through curricular activities in the schools. Based on the findings of the study, the researcher recommends, inter alia, use of activity-based pedagogies, involvement of community, regular feedback and assessments, assigning adequate weightage in the planning and organization curricular activities in the schools of Madhya Pradesh.

**Keywords:** 21st century skills, curricular activities, secondary school, adolescents

### **INTRODUCTION**

The goal of education is to enable students to develop as a good citizen and a responsible human-being who is well-aware of their potential and competence. The realization of this goal is not possible without having focus on holistic development of students. The holistic development may be ensured by developing some certain skills among students. With the onset of the 21<sup>st</sup> Century, an intense transformation in all areas has been witnessed. Many challenges are thrown up on the individuals which

demands a new set of skills for an individual to cope-up and succeed in facing the challenges in real-life. These skills are addressed as 21st Century Skills. These skills are required for holistic development of individuals and for the progress and development of the society, nation and the world.

The term 21st Century Skills refers to a broad set of knowledge, skills, work habits and character traits that are believed—by educators, school reformers, college professors, employers, and others—to be critically important to success in today's world (Edglossary, 2020). Twenty-first century is characterized by the dynamicity of technology in one hand and challenging demands at the other hand. This demands the transformation of schools to a place where the children can widen their skills rather than merely acquiring textual knowledge. Therefore, the present-day education should impart a kind of education that reflects the development in all sectors of the society and should have a blend of all types of knowledge and skills. Pashler, McDaniel, Rohrer & Bjork (2008) pointed out that, incorporating diverse teaching methods still appears to be a valid way of reaching any student and varying presentation methods based on curriculum or content appears to be an efficient teaching strategy critically important to success in today's world (The Glossary of Education Reform, 2016). Larson & Miller (2011) have suggested that students and teachers need to be familiar with these 21st Century Skills and these skills has to be integrated in the existing curriculum by providing students with attractive learning opportunities in authentic contexts. Saavedra & Opfer (2012) pointed that, for students to learn 21st-century skills, we will have to teach them differently than we have in the past.

The present century also demands a modified stress-free classroom environment and a change in the pedagogical approach. Mastery of teaching and learning have to be ensured at every stage of education. This is no doubt challenging for teachers as they have to ensure mastery in student's learning and at the same time have to complete the topics in the prescribed time limit. In the present study an attempt has been made to find out the possibilities for development of 21<sup>st</sup> century skills among students through curricular activities from the perspective of students.

### **Objective of the study**

The study was conducted with the major objective to analyse the perception of students regarding development of 21<sup>st</sup> century skills through curricular activities organized in the schools of Madhya Pradesh.

### **METHODOLOGY**

Descriptive method was employed in carrying out the study. The population of the study consisted of all the school going adolescents of all the secondary schools of Madhya Pradesh and the sample for the study consisted of eight (08) secondary schools, including four rural and four urban schools, selected following purposive sampling technique, from four districts of Madhya Pradesh, viz., Bhopal, Chatarpur, Betul and Jabalpur. The sample of Subjects / key Informants of the study included 614 students studying in classes 9 and 10 in the schools included in the sample. A four-point scale (Strongly Agree, Agree, Disagree, Strongly Disagree) and Focus Group Discussion guideline developed by the researcher were used for the collection of data from the students regarding their perception about development of 10 identified 21st century skills, viz., Critical Thinking and Problem Solving, Creativity and Innovation, Collaboration, Communication, Information Literacy, Media Literacy, Technology Literacy, Flexibility and Adaptability, Leadership and Responsibility, Initiative and Self-Direction, Productivity and Accountability, Social and Cross-Cultural Interaction, through curricular activities. Apart from these two tools, field notes were extensively used by the researcher to capture first hand experiences and observations from the field. The data collected from the students were analysed with the help of simple quantitative technique of percentage and qualitative technique of thick description.

### **RESULTS**

The data collected from the students through four-point scale (Strongly Agree, Agree, Disagree, Strongly Disagree) Focus Group Discussions (FGD) and fieldnotes regarding their perception about development of 10 identified 21st century skills, viz., Critical Thinking and Problem Solving, Creativity and Innovation, Collaboration, Communication, Information Literacy, Media Literacy, Technology

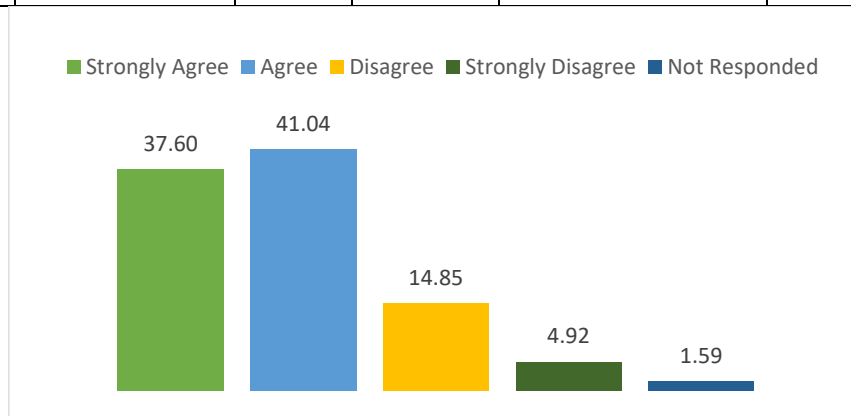
Literacy, Flexibility and Adaptability, Leadership and Responsibility, Initiative and Self-Direction, Productivity and Accountability, Social and Cross-Cultural Interaction, through curricular activities, are presented in the following sub-sections:

**Perception of students about development of 21<sup>st</sup> century skills**

The perception of 614 students, collected through four-point scale (Strongly Agree, Agree, Disagree, Strongly Disagree), focus group discussions and fieldnotes, regarding development of aforesaid ten (10) 21<sup>st</sup> century skills, through curricular activities organized in the schools of Madhya Pradesh, are presented in table 4.1 as follows:

**Table: 4.1: Perception of Students about Development of 21<sup>st</sup> Century Skills through Curricular Activities**

(N = 614)					
Item No.	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Responded
Total	6926	7559	2736	907	292
Average	230.87	251.97	91.20	30.23	9.73
Percentage	37.60	41.04	14.85	4.92	1.59



**Figure 1: Perception of Students about Development of 21<sup>st</sup> Century Skills**

The results of table 4.1 and figure1 depict the perception of students of M.P. about development of 10 identified 21<sup>st</sup> century skills through curricular activities organized in their schools. It is revealed from the results that as high as 78.64 % students are of opinion (37.60% strongly agreed and 41.04% agreed only) that 21<sup>st</sup> century skills are being developed through organization of curricular activities organized in their schools. The corresponding figure for the students who disagreed is 19.77% (4.92% strongly disagreed and 14.81% disagreed only). Thus, it can be concluded that majority of students (78.64 %) are of opinion that 21<sup>st</sup> century skills are developed through curricular activities in the schools of Madhya Pradesh.

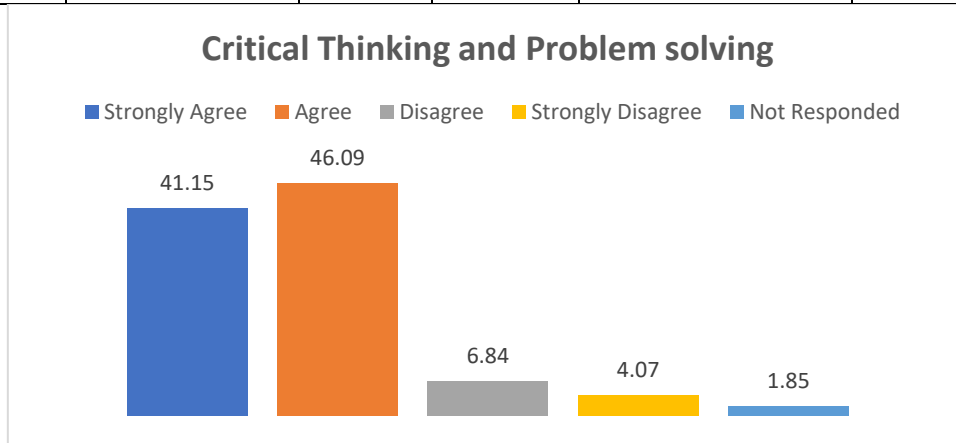
**Skill-wise Analysis of Development of 21<sup>st</sup> Century Skills through Curricular Activities**

The results pertaining to skill-wise analysis to find out perception of students about development of 10 identified 21<sup>st</sup> Century Skills are presented in tables 4.2 to 4.11 as follows:

**Development of Critical Thinking and Problem-solving Skills**

**Table 4.2: Perception of Students Regarding Development of Critical Thinking and Problem-solving Skills**

Item No.	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Responded
Total	758	849	126	75	34
Average	252.67	283.00	42.00	25.00	11.33
Percentage	41.15	46.09	6.84	4.07	1.85



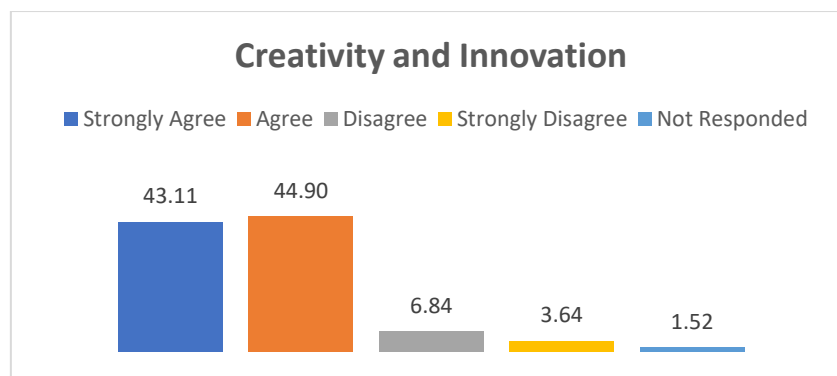
**Figure 2: Perception of Students about Development of Critical Thinking and Problem-solving Skills**

The results of table 4.2 and figure 2 depict the responses of students on the availability of opportunities to develop the skills of critical thinking and problem-solving in their schools through curricular activities. The percentage of students who strongly agreed and those who agreed only are: 41.15% and 46.09%, respectively. The corresponding figures for students who strongly disagreed and those who disagreed only are: 1.85% and 4.07%, respectively. These results reveal that majority of students (87.24 %) are of opinion that their schools provide required opportunities to develop the skills of critical thinking and problem-solving.

**Development of Skills of Creativity and Innovation**

**Table 4.3: Perception of Students Regarding Development of Skills of Creativity and Innovation**

Item No.	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Responded
Total	794	827	126	67	28
Average	264.67	275.67	42.00	22.33	9.33
Percentage	43.11	44.90	6.84	3.64	1.52



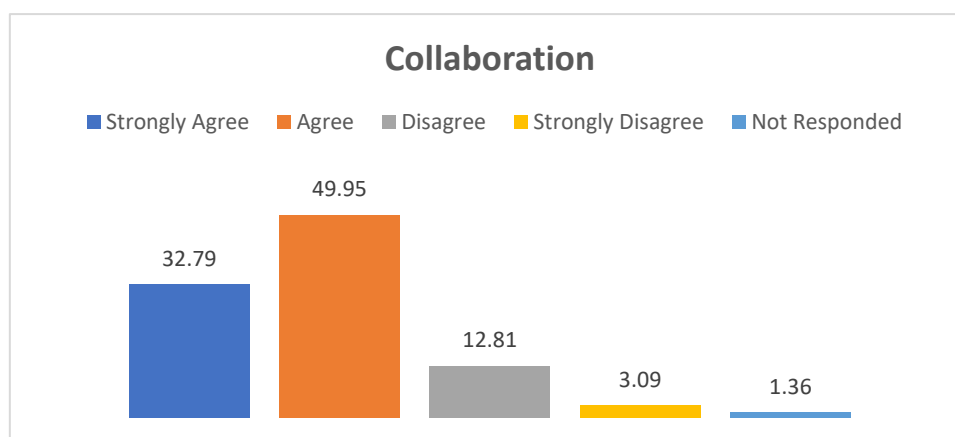
**Figure 3:** Perception of Students about Development of Creativity and Innovation Skills

The results of table 4.3 and figure 3 depict the responses of students on the availability of opportunities to develop the skills of creativity and innovation in their schools through curricular activities. The percentage of students who strongly agreed and those who agreed only are 43.11% and 44.90 %, respectively. The corresponding figures for students who strongly disagreed and those who disagreed only are: 1.52% and 3.64%, respectively. These results reveal that majority of students (88.01%) are of opinion that their schools provide required opportunities to develop the skills of creativity and innovation.

### Collaboration

**Table 4.4: Perception of Students Regarding Development of Skill of Collaboration**

Item No.	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Responded
Total	604	920	236	57	25
Average	201.33	306.67	78.67	19.00	8.33
Percentage	32.79	49.95	12.81	3.09	1.36



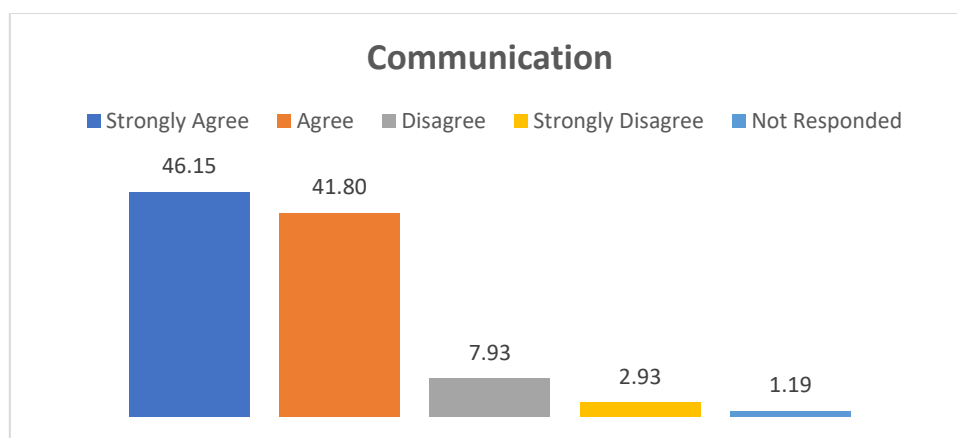
**Figure 4:** Perception of Students about Development of Skill of Collaboration

The results of table 4.4 and figure 4 depict the responses of students on the availability of opportunities to develop the skill of collaboration in their schools through curricular activities. The percentage of students who strongly agreed and those who agreed only are 32.79% and 49.95% respectively. The corresponding figures for students who strongly disagreed and those who disagreed only are: 3.09% and 12.81%, respectively. These results reveal that majority of students (82.84%) are of opinion that their schools provide required opportunities to develop the skill of collaboration.

**Communication**

**Table 4.5: Perception of Students Regarding Development of Skill of Communication**

Item No.	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Responded
Total	850	770	146	54	22
Average	283.33	256.67	48.67	18.00	7.33
Percentage	46.15	41.80	7.93	2.93	1.19



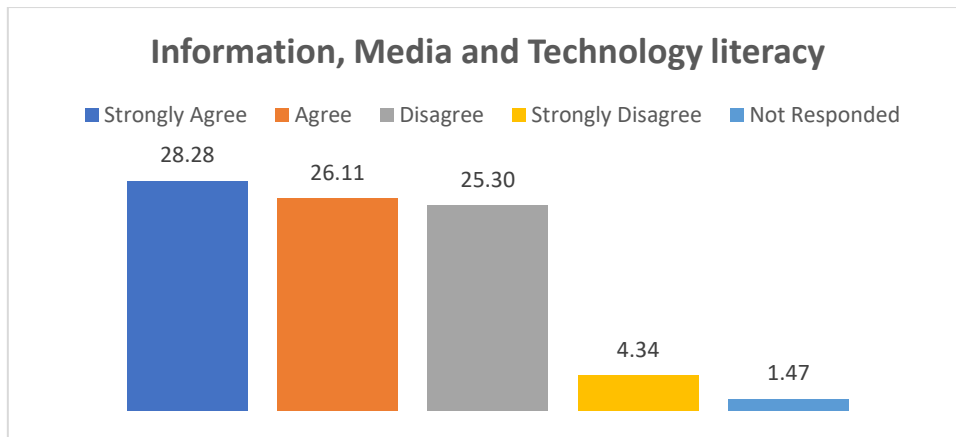
**Figure 5: Perception of Students about Development of Skill of Communication**

The results of table 4.5 and figure 5 depict the responses of students on the availability of opportunities to develop the skill of communication in their schools through curricular activities. The percentage of students who strongly agreed and those who agreed only are 46.15% and 41.80%, respectively. The corresponding figures for students who strongly disagreed and those who disagreed only are: 1.19% and 2.93%, respectively. These results reveal that majority of students (87.95%) are of opinion that their schools provide required opportunities to develop the skill of communication.

**Information, Media and Technology literacy**

**Table 4.6: Perception of Students Regarding Development of Skill of Information, Media and Technology Literacy**

Item No.	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Responded
Total	521	481	466	80	27
Average	173.67	160.33	155.33	26.67	9.00
Percentage	28.28	26.11	25.30	4.34	1.47



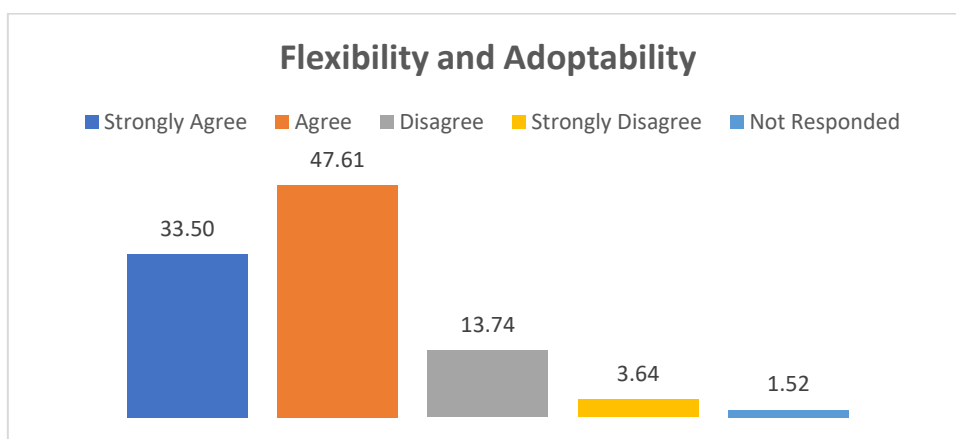
**Figure 6:** Perception of Students about Development of Skill of Information, Media and Technology Literacy

The results of table 4.6 and figure 6 depict the responses of students on the availability of opportunities to develop the skills of information, media and technology literacy in their schools through curricular activities. The percentage of students who strongly agreed and those who agreed only are 28.28 % and 26.11% respectively. The corresponding figures for students who strongly disagreed and those who disagreed only are: 1.47% and 4.34%, respectively. Thus, these results reveal that majority of students (54.39%) are of opinion that their schools provide required opportunities to develop the skills of information, media and technology literacy.

#### *Flexibility and Adoptability*

**Table 4.7:** Perception of Students Regarding Development of Skill of Flexibility and Adoptability

Item No.	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Responded
Total	617	877	253	67	28
Average	205.67	292.33	84.33	22.33	9.33
Percentage	33.50	47.61	13.74	3.64	1.52



**Figure 7:** Perception of Students about Development of Skill of Flexibility and Adoptability

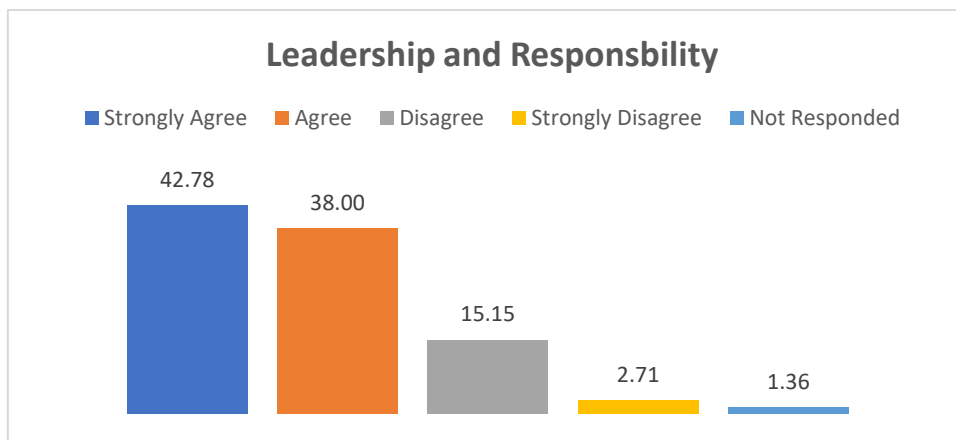
The results of table 4.7 and figure 7 depict the responses of students on the availability of opportunities to develop the skills of flexibility and adoptability in their schools through curricular activities. The percentage of students who strongly agreed and those who agreed only are 33.50 % and 47.61% respectively. Thus, these results reveal that majority of students (81.11%) are of opinion that their schools provide required opportunities to develop the skills of flexibility and adoptability.

47.61% respectively. The corresponding figures for students who strongly disagreed and those who disagreed only are: 1.52% and 3.64%, respectively. These results reveal that majority of students (81.11%) are of opinion that their schools provide required opportunities to develop the skills of flexibility and adoptability.

**Leadership and Responsibility**

**Table 4.8: Perception of Students Regarding Development of Leadership and Responsibility**

Item No.	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Responded
Total	788	700	279	50	25
Average	262.67	233.33	93.00	16.67	8.33
Percentage	42.78	38.00	15.15	2.71	1.36



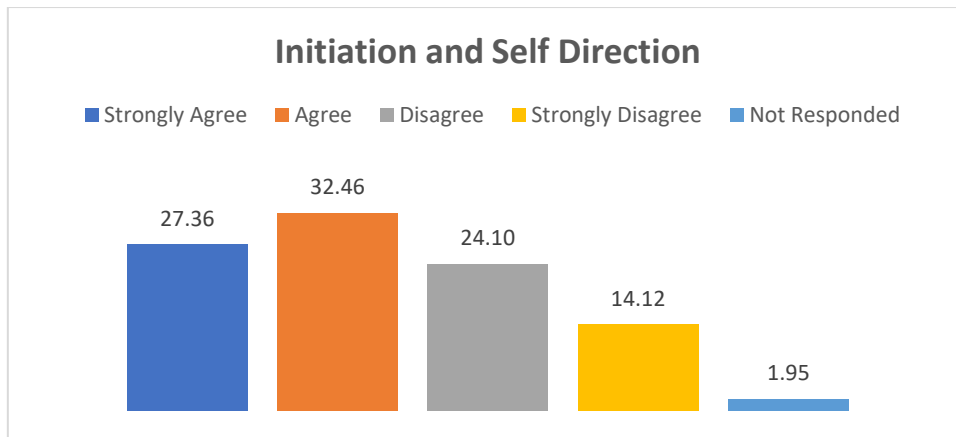
**Figure 8: Perception of Students about Development of Skill of Leadership and Responsibility.**

The results of table 4.8 and figure 8 depict the responses of students on the availability of opportunities to develop the skills of leadership and responsibility in their schools through curricular activities. The percentage of students who strongly agreed and those who agreed only are 42.78% and 38.00% respectively. The corresponding figures for students who strongly disagreed and those who disagreed only are: 1.36% and 2.71 %, respectively. Thus, these results reveal that majority of students (80.78%) are of opinion that their schools provide required opportunities to develop the skills of leadership and responsibility.

**Initiation and Self Direction**

**Table 4.9: Perception of Students Regarding Development of Initiation and Self Direction Skills**

Item No.	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Responded
Total	504	598	444	260	36
Average	168.00	199.33	148.00	86.67	12.00
Percentage	27.36	32.46	24.10	14.12	1.95



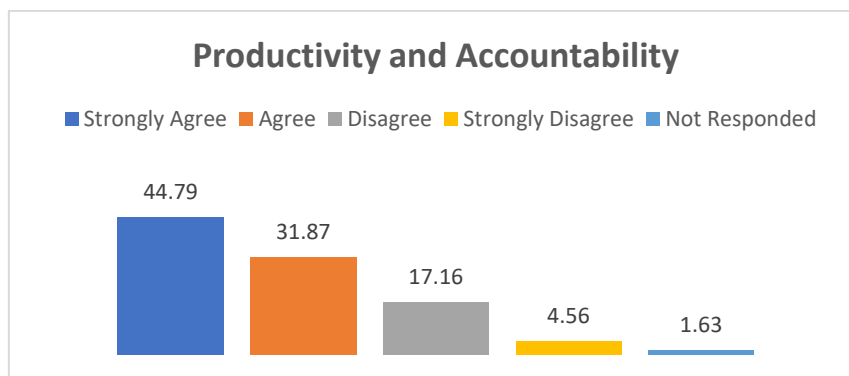
**Figure 9:** Perception of Students about Development of Initiation and Self Direction Skill

The results of table 4.9 and figure 9 depict the responses of students on the availability of opportunities to develop the skills of initiation and self-direction in their schools through curricular activities. The percentage of students who strongly agreed and those who agreed only are 27.36% and 32.46 % respectively. The corresponding figures for students who strongly disagreed and those who disagreed only are: 1.95% and 14.12%, respectively. Thus, these results reveal that majority of students (59.82%) are of opinion that their schools provide required opportunities to develop the skills of initiation and self-direction.

### Productivity and Accountability

**Table 4.10: Perception of Students Regarding Development of Productivity and Accountability Skill**

Item No.	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Responded
Total	825	587	316	84	30
Average	275.00	195.67	105.33	28.00	10.00
Percentage	44.79	31.87	17.16	4.56	1.63



**Figure 10:** Perception of Students about Development of Productivity and Accountability Skill

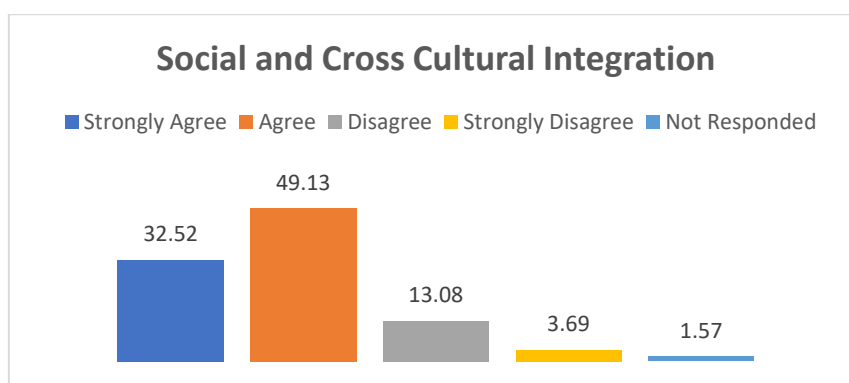
The results of table 4.10 and figure 10 depict the responses of students on the availability of opportunities to develop the skills of productivity and accountability skills in their schools through curricular activities. The percentage of students who strongly agreed and those who agreed only are 44.79% and 31.87%, respectively. The corresponding figures for students who strongly disagreed and those who disagreed only are: 1.63% and 4.56%, respectively. These results reveal that majority of

students (76.66%) are of opinion that their schools provide required opportunities to develop the skills of productivity and accountability.

### **Social and Cross-Cultural Integration**

**Table 4.11: Perception of Students Regarding Development of Social and Cross-Cultural Integration Skills**

Item No.	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Responded
Total	599	905	241	68	29
Average	199.67	301.67	80.33	22.67	9.67
Percentage	32.52	49.13	13.08	3.69	1.57



**Figure 11: Perception of Students about Development of Social and Cross-Cultural Integration Skills**

The results of table 4.11 and figure 11 depict the responses of students on the availability of opportunities to develop the skills of Social and Cross-Cultural Integration Skills in their schools through curricular activities. The percentage of students who strongly agreed and those who agreed only are 32.52% and 49.13%, respectively. The corresponding figures for students who strongly disagreed and those who disagreed only are: 1.57% and 3.69%, respectively. These results reveal that majority of students (81.65%) are of opinion that their schools provide required opportunities to develop the skills of Social and Cross-Cultural Integration.

### **Findings of the Study**

- Majority of secondary school students (78.64 %) are of opinion that 21<sup>st</sup> century skills are developed through curricular activities in the schools of Madhya Pradesh. The corresponding figure for the students who disagreed is 19.77% (4.92% strongly disagreed and 14.81% disagreed only).
- Majority of secondary school students of Madhya Pradesh are of opinion that 10 identified 21<sup>st</sup> century skills are developed among them through curricular activities organized in their schools, viz., Critical Thinking and Problem Solving 87.24 %, Creativity and Innovation (88.01%), Collaboration (82.84%), Communication (87.95%), Information Literacy, Media Literacy, Technology Literacy (54.39%), Flexibility and Adaptability (81.11%), Leadership and Responsibility (80.78%), Initiative and Self-Direction (59.82%), Productivity and Accountability (76.66%), Social and Cross-Cultural Interaction (81.65%), through curricular activities. The corresponding figures for the students, who strongly disagreed or agreed only, are less than half or negligible.

## Outcomes from Focus Group Discussions

Focus group discussions with the students, in selected schools, reveals the following facts:

- Although curricular activities are organized in the school for development of 21st century skills in the schools of M P., there seems imbalance in the weightage assigned curricular activities as compared to curricular subjects in school time-table; more weightage is given to curricular subjects.
- All students do not get opportunities to participate in the curricular activities: Participation of girls is reportedly less as compared to their boy counterparts; and participation of Divyang children is reportedly less as compared to their Non-Divyang counterparts.
- Only few teachers, in respective schools, are associated with the curricular activities.
- Required resources are not adequately available in schools to organize certain curricular activities that are crucial for development of 21st century skill.
- Parents and community members are not associated with the organization of curricular activities.

## Recommendations

Based on the findings and outcomes of the focus group discussions with the students, in selected schools, the following recommendations are made for the authorities of secondary education in the state of Madhya Pradesh:

- In view of the recommendation of the NEP 2020 that there should be no discrimination between curricular and co-curricular activities, schools need to give weightage to curricular activities at par with curricular subjects and this should be reflected in the school time-table.
- All categories of students, including Divyang children, girl children and children belonging to other marginalized section should get opportunities to participate in the curricular activities
- All teachers, in respective schools, should be associated with the organization of curricular activities based on their abilities and interest. In order to motivate and promote the abilities of teachers in the organization of curricular activities, few sessions should be devoted during Continuous Professional Development programs for teachers
- Increased attention should be given to the organization of curricular activities that develop the skills of: Information Literacy, Media Literacy, Technology Literacy; Initiative and Self-Direction; and Productivity and Accountability.
- Educational authorities at the state and district levels should provide adequate resources, required for the organization of curricular activities in schools.
- Parents and community members need to be associated with the organization of curricular activities in schools.

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