



## The Relevance of Micro and Macro Credentials for the 21st Century Workforce – A Gateway for Securing Job

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**Abstract** – Gone were the heydays when grabbing a dream job is only a task of degree holders. Today the industry thrive on the skills of the candidate acquired from short-term learning instead of the traditional degrees they complete in years. The recruitment process is turning dynamic for each and every industry who are making a talent hunt for a kind of Human Resource, who hold versatility & requisite professionalism in the respective field of industry requirements. The requirements of industry is changing with a rapid pace, and to match the specific requirement educational institutions, vocational training centers and other personality development centers are preparing human resources with industry specific curriculum. In the lieu to make modern work force adaptive with modern industry needs and to open their gateways for the successful landing in job; it is important to prepare 21st century human resources with both Micro & Macro Credentials via their academic learning and training system. There is no doubt that in the modern times, CVs and Resumes has to be ATS (Applicant Tracking System) approved. The candidate must pose specific skills-set and knowledge to secure the best job for himself. And to raise the importance of one's CV, these Nano degrees, certification, vocational training diploma courses, short-term courses & certification are truly making our CV more keywords friendly to be easily noticed and approachable by the recruiter during the time of hiring for a job. It's been a global phenomenon these days that talent hunters had shifted their focus on navigating only those human resource, who have either of these certifications, diplomas, training, internship or volunteering experience along with regular graduate and post graduate degree. In fact, if the human resources have education system with the richness of both macro & micro credentials in their kitty of pedagogy as well as andragogy, there is proportionally high chances of their selection, if other things goes favourable as well. Considering the relevance of micro and macro credentials in the recruitment trends these, it is importance to shed light on the very concept via this research paper. This research paper is based on primary data sources and had taken the data inputs from the undergraduate and post graduate students, between the age-group of 20-25 years in majority. The research paper highlighted the changing credentials requirements from the human resource; for his/her selection in particular industry. The paper also present findings, suggestions as well as conclusion for the better understanding of the relationship between micro & macro credential with job selection.

**Keywords:** Micro Credentials, Macro Credentials, Job Selection, Human Resource, Workforce, Recruitment, Selection and Talent Hunt.

### 1. INTRODUCTION



Although successful career is never dependent on the degrees and certificates, what we had with us as a proof of our academic excellence; but still they are nothing less than academic gems for those who earned all of them with their constant learning and practice. These academic gems are collected as a result of long-term learning duration, and it is this gem which wing us towards the gateway of our dream career job, earn quality living and gain social recognition as an educated or skilled person. Education is like a reward of our hard work of constant learning. Almost all of us had spent more than a decade on average in completing our education with industry specific training. After all, the entire purpose of all these learnings (micro and macro credential rich education system) is to get a stable and resounding career, which can best serve the changing industry dynamics of current time duration. Today the needs of industry is changing so rapidly that we barely expect a dream career with our graduation degree only. There is something extra to be needed, to complement our degree so as to match the requirement of the modern job descriptions. Considering the extent of competition and industry dynamics in mind, it become necessary for the modern workforce, to adapt their education system rich in both – Knowledge & Skills via both Micro & Macro Credentials.

## 1.1 Meaning of Macro-Credential

The term macro credentials can be defined as the traditional degrees and diplomas completed from a university or a college. Such degrees are gained after the formal completion of long-term learning to make as career proof. But with the changing scenario and ever increasing competition, there is reduction of job security chances from the Macro Credentials only. As settlement in the corporate not only demand soft skills apart from degree, but also digital skills, critical thinking skills, analytical skills and other industry appropriate skill-sets, so as to fulfill the competency demand as needed. The curriculum of the universities keeps on changing, so as to match the diverse demand of the industry. Therefore despite certain mismatch with the industry; we can't totally ignore these macro credentials, as they are crucial to lay foundational knowledge in human resource to make quality decisions for his day-to-day problems.

## 1.2 Meaning of Micro-Credential

Anything which is complementary or addition to the formal learning experience is considered Micro-Credential. Its purpose is to upskill, train and to do value addition of the person who enroll in it. It also act as proof of skills or knowledge learned over a period of time. Micro credentials are generally designed for shorter time duration. These credentials have equivalent value just like those of the macro credentials. If these Micro credentials are learned online, then it also offer digital badge to the enrolled student in his digital locker, which he/she can further utilize to gain another educational degree based on that score badge. They are the affordable learning solutions to make us job ready.

## 1.3 Traditional Education System & Industry Requirement

Let us take the scenario of India for the sake of convenience of this research paper. Traditionally the education system of India had gone through significant changes over centuries. This evolution in Indian education system had role of Ancient Kings, Britishers, Independent India political leaders, reformers and educationists. But if we concentrate specifically on the development of Post Independent India, one can easily understand that education system progressed in the same manner as progress strives in our industries. But post Liberalization, Privatization and Globalization (LPG), India's secondary and tertiary sector grows with leaps and bounce, thus creating diversity of job opportunities with the advent of foreign MNC's and FDI into the domestic



markets. Now that the job market is taking a shift, it is crucial for human resources to prepare themselves for the changed demand. But despite dynamism in industry, for prolonged time duration, traditional education system in India stay more focused on theoretical knowledge rather than focusing on practical aspect of it. The graduates and postgraduates still struggle to learn the job requirements anew, as the college curricular is far different from the actual job requirements. As a result, foreign universities are more lucrative options for the Indian students to learn from, as they offer mandatory industry internship or apprenticeship during graduation or post-graduation courses. It was after UGC (University Grant Commission) decision to mandate UG pursuing students to complete mandatorily internship and gain credits from it. After the introduction of (NEP 2020) particularly, the government is focusing on active engagement of students to not only command subjective knowledge; but also get exposure of on-site experimental learning via internships. As per the new guideline 60-120 hours of internship is mandatory after the students of fourth semester of an UG curriculum programme.

With the above explanation, it is clear that there are certain flaws in the traditional education system due to which the students face difficulty in handling the roles and responsibilities of their newly joined job. Since they are not previously exposed to it, they have to undergo on the job learning and training more frequently, to match the demand of their job. But if talk about the Industry requirement, one particular word to perfectly narrate what it is exactly will be “unpredictable”. You never know, what shift came in industry when and how. With the advent of time, new jobs will come into the picture with new set of challenges, new demand of expertise, knowledge and skills for doing it. Technology is the biggest propeller of driving shift in the job-roles industry could offer. In such a milieu, it is becoming challenging for the human Resource to ensure his/her smooth survival without adapting change in them. The only way possible for the survival of the workforce is to continuously indulge themselves in the upskill and reskill programs, so as to match the dynamic work demands.

#### **1.4 Interaction between Academics & Industry in modern times**

Leap and bouncy success of any industry had never been an issue, unless the workforce is actively matching the changed requirements of an industry’s specific demand. The main problem arises in a scenario, when our human resource fail to match the expectation of the industry and fail to cope with the changes in industry surroundings. Take for example, the pre-computer era workforce, have to adopt computer know-how, for ensuring their survival in the age of digitalization & computerization. Similarly, when the industries across the globe are rushing towards the technologies like Artificial Intelligence and other like-minded technological innovations; need of the hour is that the current workforce has to train and upskill with the relevant skills know-how, so that they can easily harness the potential benefits of that technology in trend on the one hand and also ensure their smooth survivability, despite technology shift on the other hand.

Earlier research has already proved that, there exist a wide gap in academic curriculum and actual industry needs. Earlier the academic curriculum was more theoretical than practical, as a result students skill set did not exactly satisfy the job description of industry. Traditional education system put a greater emphasis on the macro credentials only. In which grabbing a degree merely was thought to be enough for making us job-ready and competent, however this myth was erected overtime. But with changing circumstances, academic institutions who are considered as the factory of educated human resources, understand this mismatch and adopted right strategies to deliver industry-appropriate workforce. There are so many appropriate courses, certification programmes, diploma and nano degrees curriculum specially designed by the academic institutions to cater the dynamic demand of modern industry needs. Today more academic platforms are



available online with more industry-oriented courses, diplomas and skill building sessions, to help the student groom well with broad vision of practicality and enough knowledge about industry or corporate working.

The arrival of micro credentials in tandem with the macro credentials is improving the interaction between academics & industry as a whole and ensure speedy success of both human resources and industry altogether. On the one hand, universities/colleges who are the hub of Macro-credentials are navigating collaborative possibilities with the reputed MNCs or corporate houses for the welfare of the budding workforce. On the other hand, these same universities/colleges are offering diversity of short-term courses, nano degrees, upskilling sessions, diploma courses to assist the existing as well as new workforce of different industrial background to match the industry dynamic arrived with time.

On an individual level too, both micro and macro credentials are doing an appreciable job to upskill the human resource for the future industry/corporate challenges. Sky is not the limit for a human resource to succeed today in different disciplines, thanks to these plethora of options available to us in the form of Micro and Macro credentials.

## 1.5 The changing need of industry with respect to education of Human Resources

With the advent of technology into the picture, there had been a gigantic shift in every sector of industry. Many new categories of jobs arrived into the market as career options for the 21st century workforce and many old-fashioned jobs were gone away with. Today some of the high paying job positions are inspired from technology. The following categories of job profiles such as Data Analytics, Web developer, Network Administrator, IT analyst, Operation analyst, Video game designer, application developer, Information security analyst, Mental health technicians, Social Media influencers, Database Administrators, Blogger, Vlogger, Content Creator, Influencer marketing strategist, Social Media Editor and many more become the cynosure for the new generation human resource to work on. These job positions were totally absent two decades back. But today, the when the workspace is shared equally by both man and machine, the human have to go next level in their skills and competencies to match the ever changing work diversity and difficulty. As machines, automation, AI and machine learning are eating up our menial task which were earlier done by semi-skilled workforce, it become crucial to develop futuristic workforce more skilled and specialist, so that they can perform the next level of job requirements. But for this to happen, it is important to equip today's students and tomorrow's workforce with both micro & macro credentials. Only by making the desired change in the education system in general (credentials in particular), we can make our human resource job ready.

## 2. THEORETICAL FRAMEWORK

**Kaicker, A., Mathur, P., Kandula, A., Kaur, S. (2023).** According to them, these days Indian Universities and colleges are doing industry collaboration very actively. But the success of this very collaboration depend upon the conducive environment and condition for both the parties together. Most of the time, it is observed that the universities/college sign conditional Memorandum of Understanding with each other to ensure their mutual benefits. This academic and industry collaboration not only giving a chance to the young students to participate in industry as internee or trainees, but also get a chance to understand the nitty-gritties of corporate culture and corporate skill demand. The trend of tandem working of academics and industry is already common in the developed nations, although this trend is in growing stage in India, but soon this collaboration will become part and parcel of Indian education system as well.



**Tiffany Hunt, Richard Carter, Ling Zhang and Sohyun Yang (2020).** According to their research, even leaders in education are also using these Micro Credentials (MC) for doing their professional development. Since, MC come with four key features like they are competency-based, personalized, on-demand and sharable, they allow educators to focus on discrete goals related to their professional practice. The authors also suggested the states or the government to implement micro credentials as an essential system of their education policy. Educators too can gain benefits like personalization, competency, flexibility, Cost efficiency and collaboration with the use of micro credentials.

**Batool, M., Islam, Z., Nawaz, M., and Khan, S. Z. (2023).** Micro-credentials are requisite in the process of skill-development of an employees. One can prepare themselves for the specific job category by effectively skilling them using micro-credentials. They are very much favourable for industries, as they skill human resources need specific skills. The supplement our convention degree and learning which we gain from degree. Professional development and skills are the necessary basics from human resource development today, if we really wanted a good growth in the industry and corporate surroundings, it is essential to skill and groom our personality to the fullest, via these micro credentials.

**Oliver, B. (2021).** Those who seeks for career advantage can utilize the benefits of micro-credentials. They help in learner value framework. They are not always designed for enhancing the employment opportunity, instead their main goal is the value addition of human being who may turn as potential workforce in any industry.

## 2.1 How Micro & Macro Credentials are acting as an appropriate keywords for designing ATS-friendly CVs for Job selection

Our degrees, diplomas/certification and our credentials define our knowledge system what we have acquired over a period of time. Whenever we design a CV to market our personality before the recruiter to influence him/her for taking a favourable hiring decision for us, it is important that our CV must hold relevant keywords appropriate to proof our skill & expertise in particular discipline, in which the recruiter is making a talent hunt. Today, when technology has entered into the HR department, in the form of multiple software's like HRIS, Zoho People, ATS (Applicant Tracking System), HCM (Human Capital Management), ERP (Enterprise Resource Planning) etc, it become necessary for the human resource to become a smart presenter of their skills. They must mention their skills learned from Micro and Macro Credentials as a keyword of their CV.

For example, if you have done a course on data analytics with outstanding grades, you can add Data Analyst in your CV's skill section.

## 3. RESEARCH METHODOLOGY

Study in this research paper is exploratory in nature. Convenience Sampling Technique is used for the purpose of collecting the samples for this research. Primary data of 112 respondents are collected using questionnaire in the form of g-form and secondary data of some websites and journals are also referred for narrating the facts. All the data is comprehended using MS-Excel software. The study is conducted using data from the students enrolled in Graduation and Post-Graduation from the institutes in Kanpur.

### 3.1 Research Objectives

- To understand the relevance of micro and macro credentials for the workforce to make them job ready.

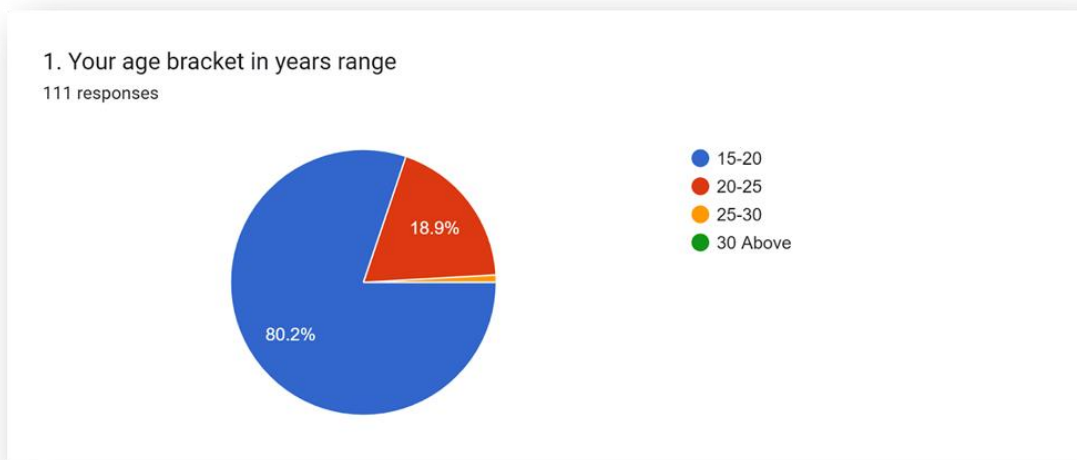
- To determine the importance of these credentials in making human resource skilled.
- To determine the changed demand of industry vis-à-vis Human Resource credentials & education.
- To identify the reason why these micro courses are popular these days.

### 3.2 Limitation of the Study

- The sample population collected are restricted to Kanpur only.
- The sample size is small, data from 112 respondents are collected only.
- Sometime respondents deliberately answer incorrect, thus results can't be generalized.
- This research paper is centric to academic applications only. It may not be directly related to other field of study.

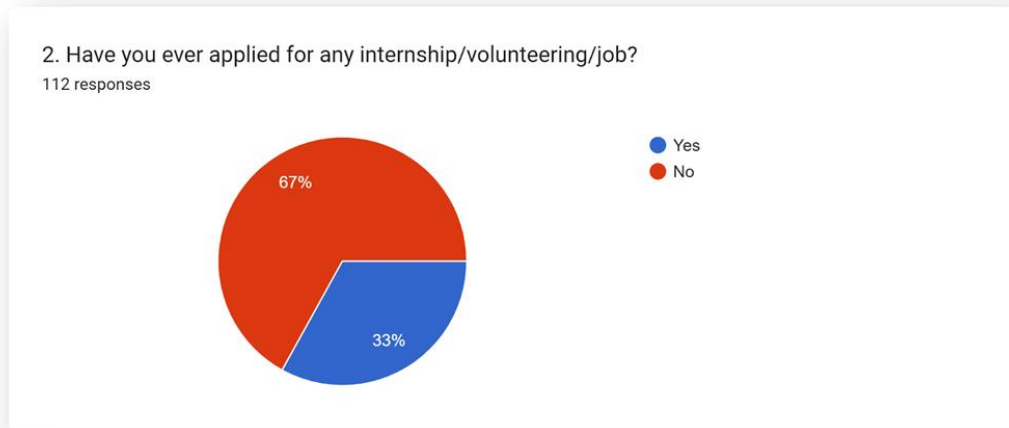
At last we must not forget that, education is an evolving subject-matter. Hence more and more changes keep on coming in with time. Therefore our interpretation that only micro and macro credential will be the ultimate solution to make us job ready will proof wrong.

## 4. DATA ANALYSIS



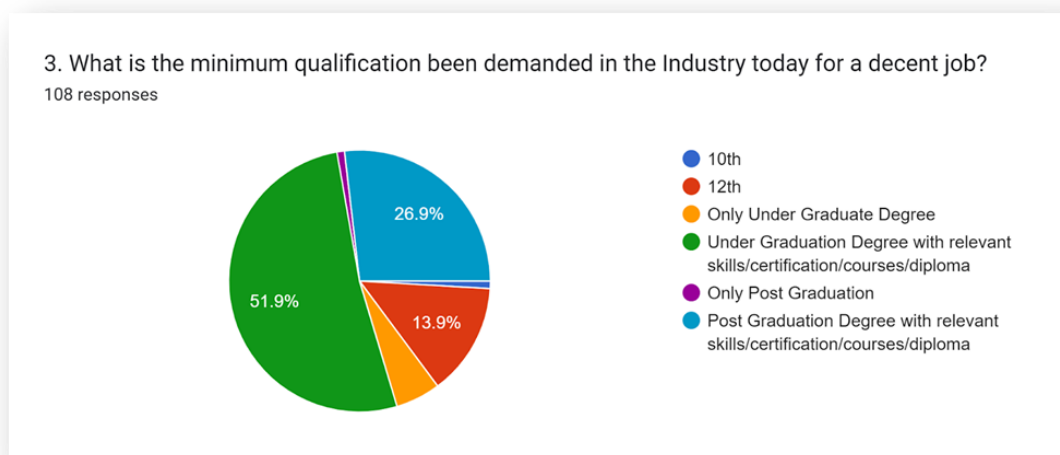
**Fig -1:** Your age bracket in years range

**Data Interpretation:** - According to the research finding from Fig. 1, the age bracket taken are 15-20 years, 20-25 years, 25-30 years and 30 and above respectively. Among them 80.2% respondents belong to 15-20 years of age. Whereas rest 18.9% and 0.9% of respondents belong to the age group of 20-25 and 25-30 years respectively.



**Fig -2:** Have you ever applied for any internship/volunteering/job?

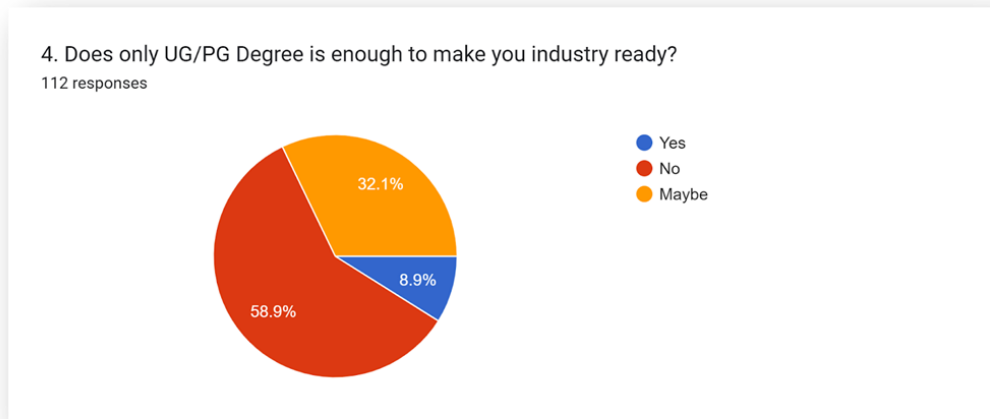
**Data Interpretation:** - According to the data collected for the purpose of this research in Fig. 2, when asked students about the question that whether they have ever applied for any internship or volunteering or job, 67% of them replied negatively. Since the respondents are majority under graduate students, thus their answer for the no application is the wait for at least admission in Post-Graduation course. On the other 33% of respondents answer positively and they had applied for internship/volunteering/job.



**Fig -3:** What is the minimum qualification demanded in the Industry today for a decent job?

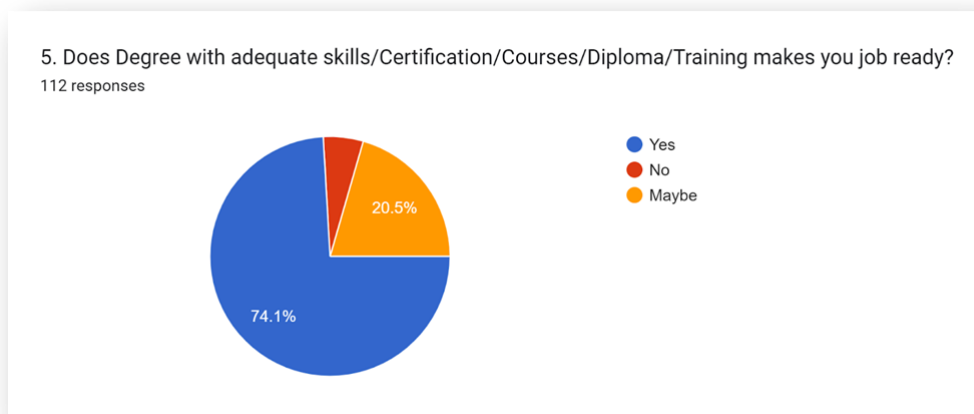
**Data Interpretation:** - According to the research finding from Fig. 3, the purpose of this question is to get an understanding from the student perspective of what is the minimum qualification demanded for a decent job. To this, 51.9% of students replied that Under Graduation Degree with relevant skills/certification/course/diploma is the minimum requirement. 26.9% of respondents believe that Post Graduation Degree with relevant skills/certification/course/diploma are the minimum necessity. Whereas 13.9% consider that only 12th

standard education is enough to get a decent job. While 6% believed it to be UG only, 0.9% believed it to be PG only and 0.9% believed it to be 10th standard only.



**Fig -4:** Does only UG/PG Degree is enough to make you industry ready?

**Data Interpretation:** - According to the research finding from Fig. 4, when asked about what make you industry, 58.9% respondents believed that only UG/PG degrees are not enough to make us job & industry ready. This simply means that we must possess certain skills and competencies other than UG/PG qualifications for grabbing good job in industry. On the other hand, 8.9% replied positively for only UG/PG degree for job and rest 32.1% responded maybe.

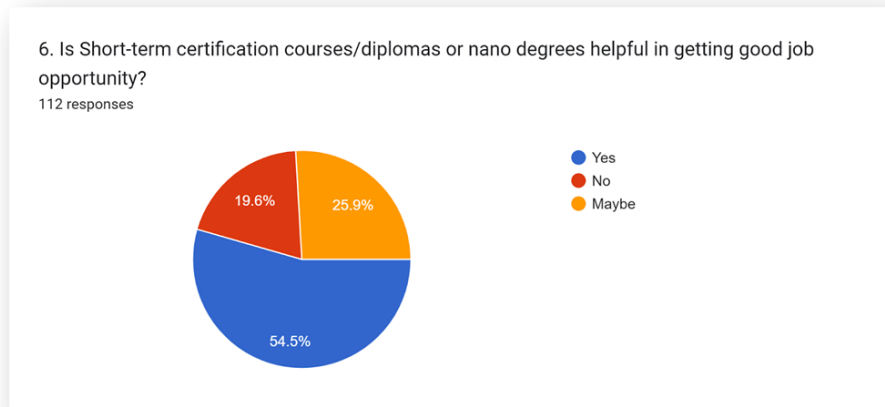


**Fig -5:** Does Degree with adequate skills/Certification/Courses/Diploma/Training makes you job ready?

**Data Interpretation:** - According to the research finding from Fig. 5, Nearly 74.1% respondents believed that degree with adequate skills/certification/courses/diploma/training makes us job ready. This huge percentage clearly indicate that in the 21st century, getting job only on the basis of degree is quite challenging. As a workforce, we have to keep adding adequate skill-set in us from time-to-time via these

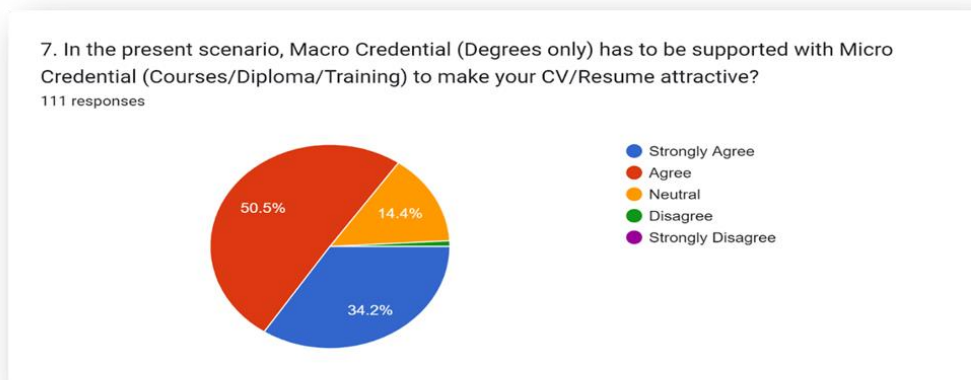


certifications or diplomas or training courses. However to this same question, 20.5% replied maybe and 5.4% replied No respectively.



**Fig -6:** Is Short-term certification courses/diplomas or Nano degrees helpful in getting good job opportunity?

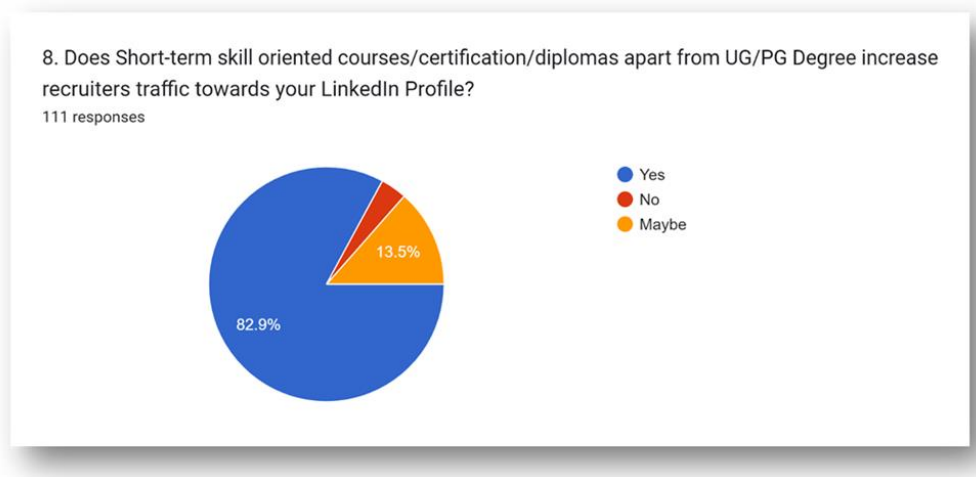
**Data Interpretation:** - According to the research finding from Fig. 6, when asked about whether short-term certification, diplomas or Nano degrees are helpful in getting good job opportunities, 54.5% of the respondents replied “Yes”. No doubt, short-term learning is like a regular add-on in our knowledge system. 25.9% respondents replied “Maybe” and rest 19.6% respondents replied “No” as they don’t consider short-term learning really essential for getting good job.



**Fig -7:** In the present scenario, Macro Credential (Degrees only) has to be supported with Micro Credential (Courses/Diploma/Training) to make your CV/Resume attractive?

**Data Interpretation:** - According to the research interpretation done in the Fig. 7; almost 34.2% respondents “Strongly Agree” & 50.5% respondents “Agree” to the fact that in the present scenario, macro credentials

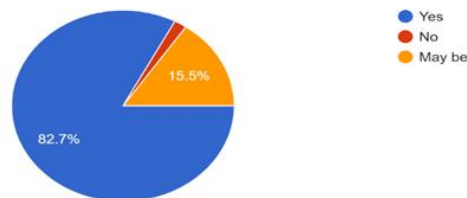
(degrees) have to be supported with micro credentials. This will help in making our CV/Resume even more lucrative to the recruiter hunting talent for the vacant job. Meanwhile 14.4% respondents choose to stay “Neutral” on this very question. A minuscule (0.9%) proportion of respondents “Disagree” with the stated question.



**Fig -8:** Does Short-term skill oriented courses/certification/diplomas apart from UG/PG Degree increase recruiter’s traffic towards your LinkedIn Profile?

**Data Interpretation:** - According to the research interpretation done in the Fig. 8; our skills is the center piece of attraction for any recruiter to offer us quality job package (CTC). Therefore 82.9% of the respondent agreed that short-term skill oriented courses/certifications/diplomas apart from traditional UG/PG degrees will help to increase the recruiter’s traffic towards our LinkedIn Profile, or other job search platforms. However a small section (3.6% and 13.5%) of the respondents responded ‘No’ and ‘Maybe’ respectively.

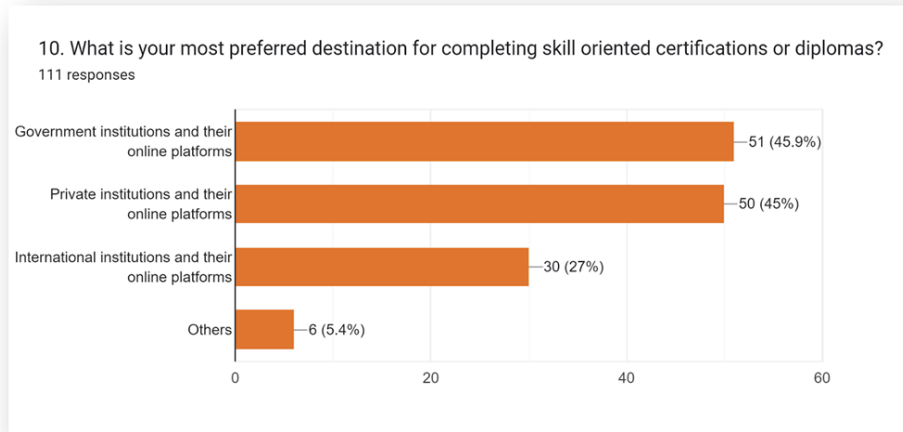
9. Today HR managers are more interested in hunting a talent proficient in variety of skills, rather than traditional UG/PG degree holders?  
110 responses



**Fig -9:** Today HR managers are more interested in hunting a talent proficient in variety of skills, rather than traditional UG/PG degree holders?

**Data Interpretation:** - According to the research interpretation done in the Fig. 9; 82.7% of the respondents agree with the fact that HR managers are more interested in hunting a talent proficient in variety of skills,

rather than traditional UG/PG degree holders. Whereas 15.5% of the respondent are responding 'Maybe' and 1.8% respondent replied unfavorably (No). The above fact clearly indicate that considering the diverse work-needs, HR manager too, search for talented candidates, proficient in different skills.



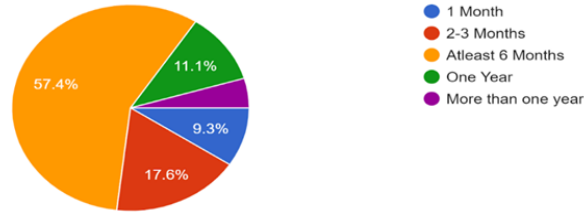
**Fig -10:** What is your most preferred destination for completing skill oriented certifications or diplomas?

**Data Interpretation:** - According to the research interpretation done in the Fig. 10; the following result appear in our study.

**Table -1:** Skill Oriented Certification

S.No.	Preferred Destination for skill-oriented certification or diploma	%
1.	Govt. Institutions and their online platforms	45.9%
2.	Private Institutions & their online platforms	45%
3.	International Institutions & their online platforms	27%
4.	Others	5.4%

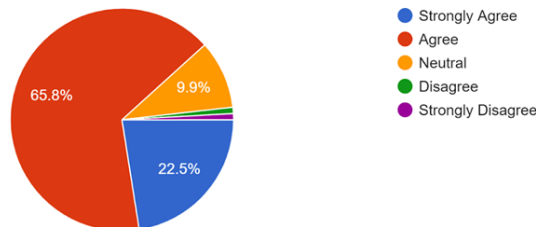
11. What maximum duration of Certification courses/Diploma/Skill-training is appealing to you for job?  
108 responses



**Fig -11:** What maximum duration of Certification courses/Diploma/Skill-training is appealing to you for job?

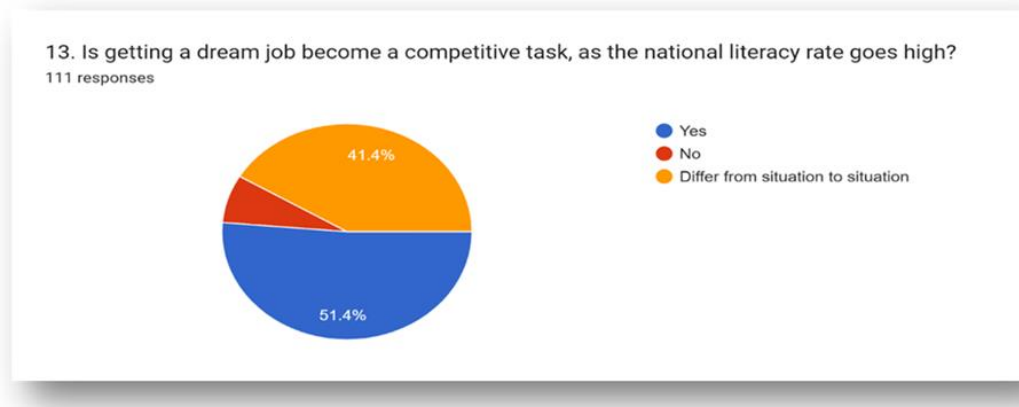
**Data Interpretation:** - According to the research interpretation done in the Fig. 11; accordingly, 57.4% people believe that certification courses or skilling session for at least six months seems appealing to the respondents for getting the desired job. However, 4.6% respondent agreed for opting certification course for at least more than one year, 9.3% agreed for 1 month certification courses, 11.1% agreed for 'One year' and finally 17.6% agreed for certification programmes that last up to 2-3 months for getting job.

12. We can't keep adding new degrees to our qualification over a period of time, but can add valuable short-term courses/diplomas/training to stay industry ready?  
111 responses



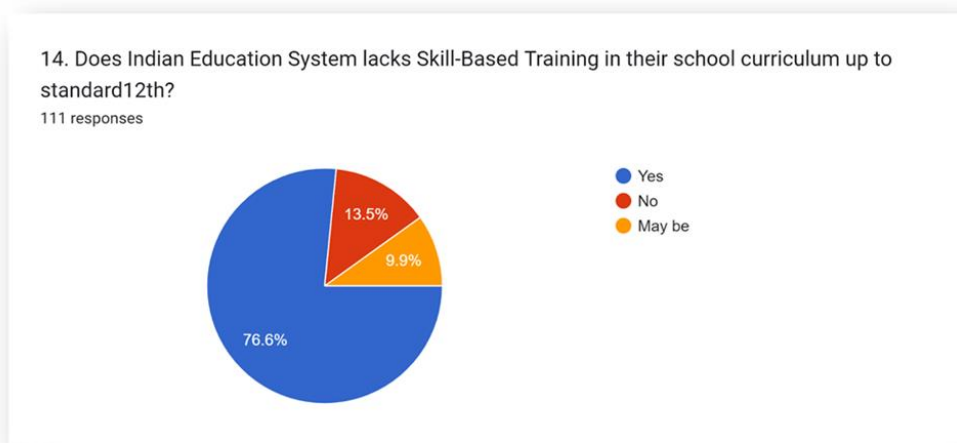
**Fig -12:** We can't keep adding new degrees to our qualification over a period, but can add valuable short-term courses/diplomas/training to stay industry ready?

**Data Interpretation:** - According to the research study comprehended in the Fig. 12; there are 22.5% respondent 'Strongly Agree' & 65.8% respondents 'Agree' with the fact that, we can't keep adding new degrees to our qualification over a period of time, but can add valuable short-term courses/diplomas/trtime but stay industry ready. A small section of 9.9% respondent stand 'Neutral' to the same question. However minuscule proportion of respondents (0.9% & 0.9%) strongly disagree and disagree with the same fact respectively.



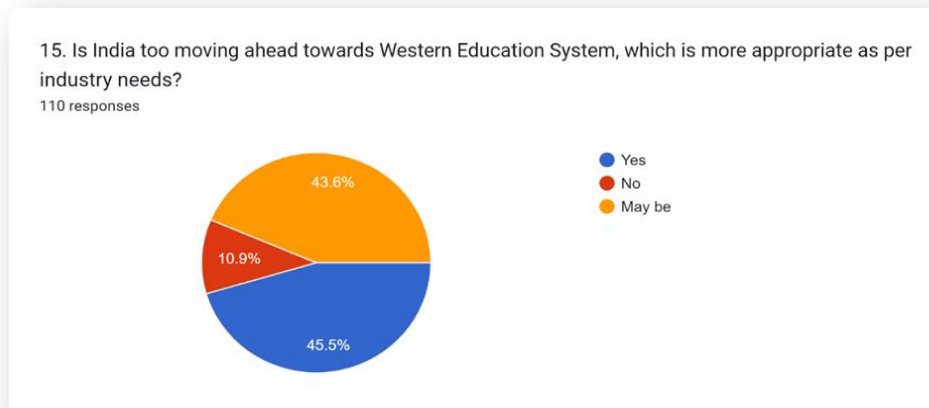
**Fig -13:** Is getting a dream job becoming a competitive task, as the national literacy rate goes high?

**Data Interpretation:** - According to the research study comprehended in the Fig. 13; when asked about the question to is getting a dream job become a competitive task, as the national literacy rate goes high/? To this 51.4% respondents replied, 'Yes' and 41.4% replied 'Differ from situation to situation'. This clearly means that increased literacy rate, by which education goes to every mind creates impediment for young human resource to get dream job. However, 7.2% respondent replied that increase literacy rate didn't create competition for getting dream job.



**Fig -14:** Does Indian Education System lack Skill-Based Training in their school curriculum up to standard12th?

**Data Interpretation:** - According to the research study comprehended in the Fig. 14; more than 76% respondent agree to the fact that Indian education system lacks 'Skill-Based Training' in their school curriculum up to standard 12th. However, 9.9% respondents 'Maybe' and 13.5% responded 'No' to this very question respectively.



**Fig -15:** Is India too moving ahead towards Western Education System, which is more appropriate as per industry needs?

**Data Interpretation:** - According to the data collected for the purpose of this research in Fig. 15, 45.5% of the respondents believed that India is moving ahead towards Western pattern of education system, in terms of synchronizing education with the corporate specific curriculum. 43.6% respondent stand midway in agree or no agree statements and responded 'Maybe'. While 10.9% respondents disagree that India is moving ahead towards Western Education System, which is more appropriate as per industry needs.

## 5. FINDINGS OF THE RESEARCH PAPER

There are different findings summarize in this research paper. The findings presents a broad picture about the reality of academic credential and their relevance in making the workforce industry ready and job proof with security of job as well. The key findings are summarize in the following given points.

- Today for getting a desired job, we need to skill-up for the industry relevant micro-credentials as doing regular macro-credentials is not an easy task.
- A greater emphasis is given by the educators on synchronizing the education with the corporate specific curriculum.
- Since traditional Indian education system lacks 'Skill-Based Training' in their school curriculum up to standard 12th, more and more students who are potential human resource for different industries are enrolling themselves in different micro-credentials courses for skilling up themselves.
- Increased literacy rate, by which leads to education going in every mind cause increased competition which at the end of the day creates impediment for the young human resource to get dream job, unless they sharpen their skill-set with relevant micro-credentials.
- Micro-credentials help the value-addition of the human resource.
- Micro-credential certificate help the human resource gain expertise in industry relevant skills, which also act as 'Keywords' for making his/her CV ATS friendly.



- Today from Government to private to international institutions, all these institution offers diversity of micro-credential courses both in offline & online mode, for the convenience of human resources upskilling & reskilling.
- They are the ultimate value addition for each and every human resource who wanted to keep growing in his/her career.

## 6. CONCLUSION

In the nutshell, we can say that Micro-Credential are perfect complimentary element to support our Macro-credential system of higher and professional education. With short-term learning courses, we not only stay updated in our knowledge and know-how, but instead our performance will our improve in aggregate. Micro-Credential certification and short-term courses, also help human resource to easily adjust with technological challenges, work dynamism and industry innovations. One of the best thing with these micro-credential is that they are easy to be learn by any type of human resource, extending his services in any type of industry and belongs to any age bracket. These short-term learning will always does value addition in the qualification portfolio of the candidate. Therefore we must actively enroll in these learning experience to enhance our knowledge and expertise in the area of our work & interest. Micro-credentials will always push our career towards academic and professional success. With more micro-credentials, we can diversify our knowledge system for professional excellence and quality decision making.

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