



**Curriculum for Diploma in
Water and Sanitation
Hygiene(WASH)**

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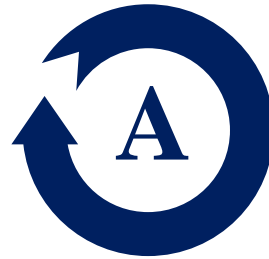
**Mahatma Gandhi National Council of Rural Education
Department of Higher Education
Ministry of Human Resource Department
Government of India**



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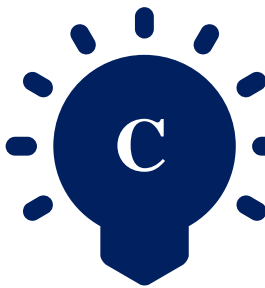
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ackground

In 2015 the World Health Organization (WHO) estimated that "1 in 3 people, or 2.4 billion, are still without sanitation facilities" while 663 million people still lack access to safe and clean drinking water (Connor 2015). In 2017, this estimate changed to 2.3 billion people without sanitation facilities and 844 million people without access to safe and clean drinking water (WHO & UNICEF 2017).

Lack of sanitation contributes to about 700,000 child deaths every year due to diarrhea, mainly in developing countries. Chronic diarrhea can have long-term negative effects on children, in terms of both physical and cognitive development (Strande and Bradjanovic 2014). In addition, lack of WASH facilities can prevent students from attending school, impose an unusual burden on women and reduce work productivity (Gomathi et al 2017).

Many studies provide poor quality evidence on the causal impact of WASH programs on health outcomes of interest. The nature of WASH interventions is such that high quality trials, such as randomized controlled trials (RCTs), are expensive, difficult and in many cases not ethical. Causal impact from such studies are thus prone to being biased due to residual confounding. Blind studies of WASH interventions also pose ethical challenges and difficulties associated with implementing new technologies or behavioral changes without participant's knowledge.

National government mapping and monitoring efforts, as well as post-project monitoring by NGOs or researchers, have identified the failure of water supply systems (including water points, wells and boreholes) and sanitation systems as major challenges. Many water and sanitation systems are unsustainable, failing to provide extended health benefits to communities in the long-term. This has been attributed to financial costs, inadequate technical training for operations and maintenance, poor use of new facilities and taught behaviors, and a lack of community participation and ownership.^[35]

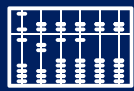
Access to WASH services also varies internally within nations depending on socio-economic status, political power, and level of urbanization. A 2004 estimate by UNICEF stated that urban households are 30% and 135% more likely to have access to improved water sources and sanitation respectively, as compared to rural areas. Moreover, the poorest populations cannot afford fees required for operation and maintenance of WASH infrastructure, preventing them from benefitting even when systems do exist (Moe and Rhiengans 2006).



methodology

In order to establish an anticipatory, reflective and flexible yet robust Diploma program in WASH, a new form of methodology has been designed. The method follows the **PIE (Personification in Education) approach** where the focus is on understanding the requirement of industry (majorly private players), development organizations (NGOs, IGOs and GOs) and what a diploma program entails post completion of the course. It can be understood as follows:

Personification in Education (PIE) Approach



Identifying the underlying trends in specific sectors with respect to WASH. The same is done by collecting data through reports and articles.



Listening to experts in the field to understand the gap of human resources in the field and potential opportunities with respect to employment.



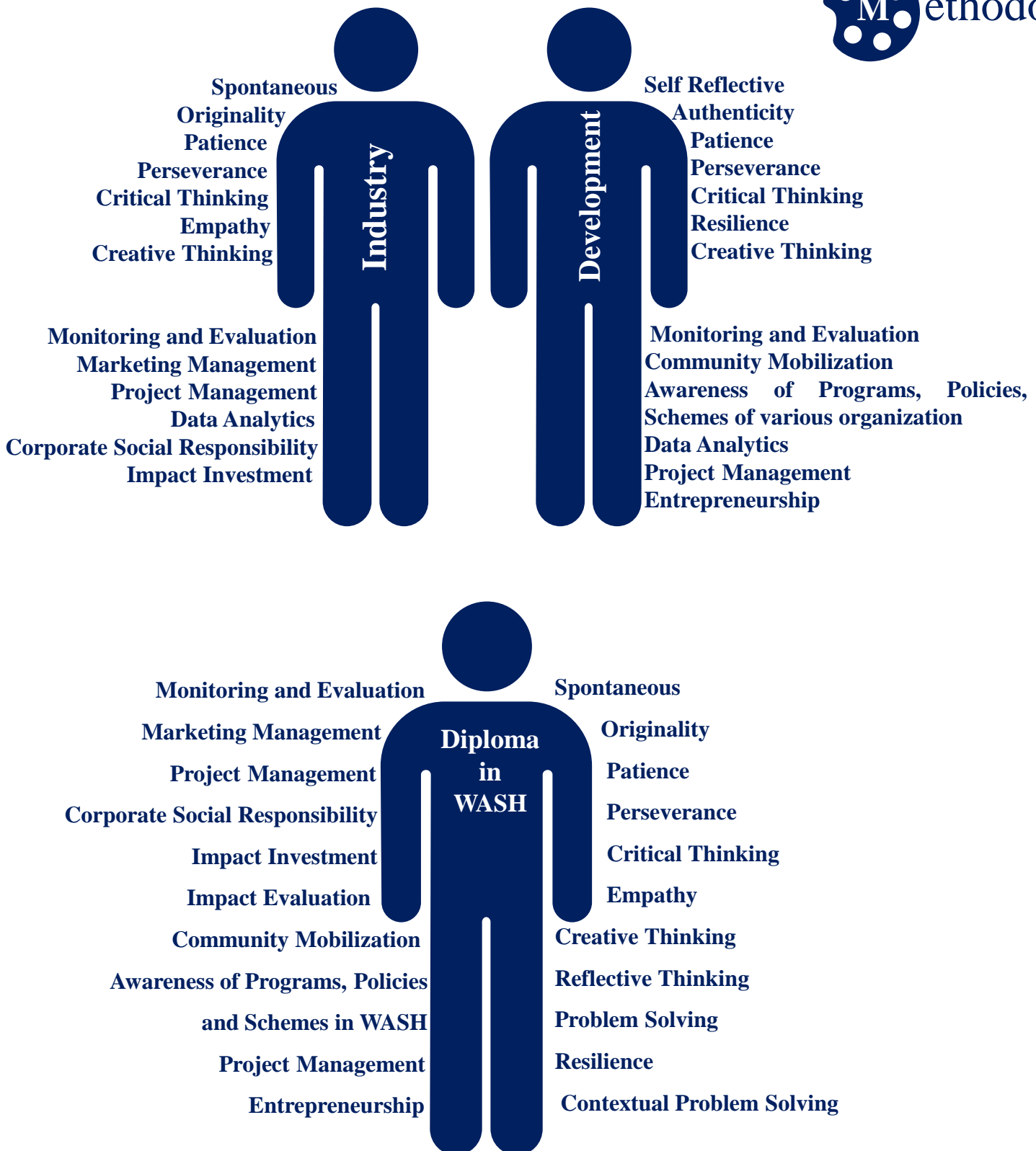
Analyzing the trends and data collected and making calculated assumptions upon the needs of existing employers in the field of WASH.



Preparing basic curriculum design by analyzing the existing courses (offline and online) available with direct and indirect reference to WASH.



Preparing Personas based on the need assessment from various sectors in WASH and accordingly deciding upon the curriculum of Diploma in WASH.



The personal and professional skillsets and requirements in various industries and organizations were assessed to define the structure of the diploma program. The above skillsets are an expected delivery of the program. However it changes with individual experiences and expectations enrolled in the program.



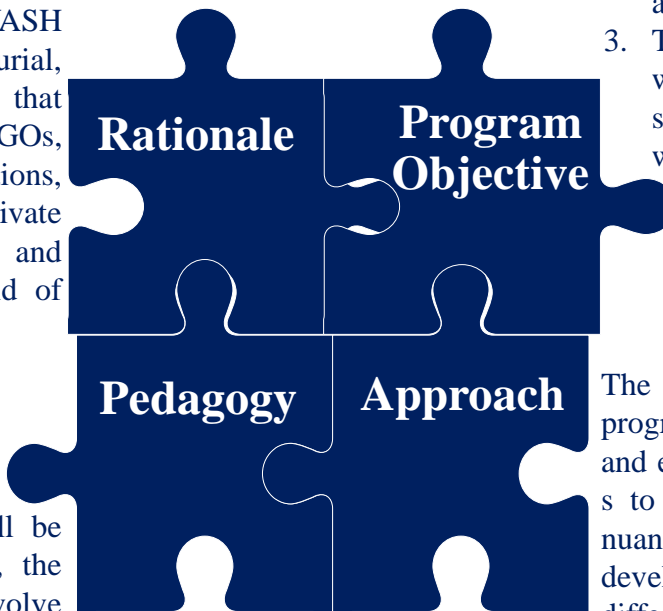
Curriculum

As the world sees a little progress made in the field of WASH while at the same time anticipate a more grounded and creative breed of experts. The diploma in WASH is an all inclusive program that serves to the existing expert human resource crisis in the field of WASH with special reference to India and neighboring countries. Moreover, the focus of the program is to equip a WASH professional with entrepreneurial, critical and creative thinking that would advance the efforts of NGOs, Inter-Governmental Organizations, Governmental Organization, Private Institutions and Companies and Research institutions in the field of WASH.

Since, the diploma program will be based on experiential approach, the participants will be required to involve in more field practicum while the classroom lectures will be restricted to exploring and discussing the concepts and existing programs and policies in WASH. Moreover, the program will follow 60:40 approach for classroom hours to field work. The program will entail 60% of field practicum while 40% will be direct classroom hours. Another important aspect of the program will be case studies and guest lectures which will help the participants contextualize and empathize with existing problems and stay updated with the same.

The Objective of the Diploma in WASH is as follows:

1. To sensitize youth with career prospects and opportunities in WASH as a field of profession.
2. To nurture young talent who can fill the gap of human resource crisis in WASH sector across India and globe.
3. To nurture homegrown talent who can bring localized solution to their communities with respect to WASH.



The approach to the diploma program is that of a transactional and experiential one. The idea here is to aid the participants with the nuances of WASH and help them develop a critical relationship with different aspects of various programs, policies and schemes. A decent slice of the program is focused on understanding the WASH in contemporary world. Moreover, The participants will contextualize with each and every issue arising in the sector and focus on bringing more sustainable and scalable solution to these problems and issues.



Course Structure



In order to facilitate a balance learning approach, the course will be divided into four semesters with three fieldwork of one month duration. The same will function after completion of 1st, 2nd and 3rd semester of the program. The program per batch will run for a duration of 15 months. The breakup for the same will be as follows:

Terms	Duration (Months)	Objective
First Semester	3	To equip participants with the basic understanding of the concept and programs associated with WASH. Moreover, the focus would be on understanding basic subjects related to WASH to prepare a base for the remaining program. The focus will be on water.
Field Work (Exploratory Study)	1	The focus would be on sending students to a village or urban area in any part of the country where they will experience the problems associated with WASH on ground.
Second Semester	3	The semester will introduce discourse with respect to programs and policies in WASH. It will further bank upon the field experiences of participants. The focus will be on sanitation
Field Work (WASH Study)	1	The participants will choose a theme of their own in WASH and will facilitate a WASH study in their respective locality.
Third Semester	3	The third semester will be focused on Hygiene aspect of WASH where entrepreneurship will also come into play.
Field Work (Social Entrepreneurship)	1.5	The participants will intern at an NGO, Government institutions, private institution etc. to imbibe solution oriented learning to their education.
Fourth Semester	2.5	The last semester will be more of a wind up semester where participants will gather a more reformed perspective and would shape their future career prospects in the field.



urriculum

The courses of each semesters have been carefully placed keeping in mind the interconnectedness of topics and concepts. Also, the semesters experiences a gradual progression in the level of difficulty and appropriateness of respective courses throughout the diploma program. The courses presented imbibes the essence of WASH and other educational programs currently carried in the respective field. Moreover, the courses in each semester supports the successive field works and equips participants with required tools and knowledge to work in the field.

First Semester (3 Months)	Field Work (1 Month)	Second Semester (3 Months)
Basic Mathematics	Exploratory Study (Village)	Civil Construction
Physics and Chemistry		Water and Sanitation Diseases
Government Policies and Schemes		Solid Waste Management
Introduction to Sanitation		Understanding WASH Organizations and SDGs
Introduction to Water		WASH: A Global Perspective
Introduction to Hygiene		Liquid Waste Management
Participatory Rural Appraisal		Facility Design and Implementation
Needs Assessment		Environment and WASH

Field Work (1 Month)	Third Semester (3 Months)	Field Work (1.5 Months)
WASH Study (Village or City)	Project Management	Social Entrepreneurship Segment (Sister Institution)
	Entrepreneurship for WASH	
	Hygiene Education and Schools	
	Institutional Sanitation	
	Gender, Human Rights and WASH	
	Operations and Information Systems in WASH	
	Sanitation, Water and Behavioral Economics	
	Community Engagement and Mobilization	



Placements	Fourth Semester (2.5 Months)	Convocation					
Placement Week (One Week in Fourth Semester)	Sustaining Sources and Community Participation		Convocation				
	Public Policy Analysis for WASH			Convocation			
	Advocacy for Change				Convocation		
	Marketing for WASH Products					Convocation	
	Urban and Rural Planning: A WASH Perspective						Convocation
	Thesis: Case Study/ Research/ Book on any topic related to WASH						



In order to make the program more enriching and impactful, the method proposed to conduct fieldwork is **‘Practicality for Reality.’** The course recommend experimental exercises, done in a logical way. These analyses ought to incorporate logical examinations to test the nature of water, soil and land. For example, it is important to comprehend the idea of, hardness of water, microbial development, organization and nature of basic cleaning operators. Additionally reporting background on individuals' investment would be valuable. The Indian mentality is somewhat fatalistic and negative, particularly in issues identified with social wrongs. Regularly individuals overlook significant s issues until they become too enormous to even think about tackling. Each understudy in class must be presented to this mentality and be prepared to powerfully counter-contend to change this outlook. The goal of this whole educational modules is to make a balanced individual prepared to confront the difficulties of Swachhta equipped with the information and abilities to deal with the issues without dread or dithering. As the course has a substantial spotlight on out of class training, it is prescribed that this point ought to be clarified at the season of affirmation and a suitable expense be charged for sorting out field trips. The most practical method of public transport ought to be chosen for each field visit. Moreover, the field visits should be coupled with local NGOs and institutions who can avail the young talents to improve upon their current operations. Hence, the philosophy of practicals for the diploma program should encompass the theory of **‘Practicality for Reality’** where they will learn of the field by aiding to the existing realities of the world with respect to WASH.



Assessments

The program will follow its kind assessment methodology. The participants are expected to carry review sheets for every field work. They will be graded by the coordinating institutions and target audience they collaborate during the program. The credits for each field segment will be as follows:

1. Exploratory Study (One Month): 6 Credits
2. WASH Study (One Months): 6 Credits
3. Social Entrepreneurship Segment: 8 Credits

Moreover, There will be 25 full credit courses (3 credits each) and 6 half credit courses (2 credits each). The program will encompass a participatory assessment methodology where the participant will be graded by their peers and would go through a compulsory written examination for full credit and half credit courses. Additionally, there will be project work for all the courses (full credit and half credit) that would be a compulsory requirement for the completion of the program. The courses will follow a 60:40 grading approach where 60% of the grading will come from practical and 40% from written examination and quizzes.

Each field component will comprise of different set of tasks. For exploratory study, the participants will be expected to make a stay in a respective village where they will try to understand the basic functioning of a village in the purview of WASH. For WASH study, the participant will work with an organization to conduct a detailed WASH study to understand the existing scenario of WASH in a locality. For Social Entrepreneurship Segment, the participants can either work independently by forming a social enterprise to tackle WASH issues of a place or can intern in an organization to propose sustainable business solutions to their problems with respect to WASH.



Outcome

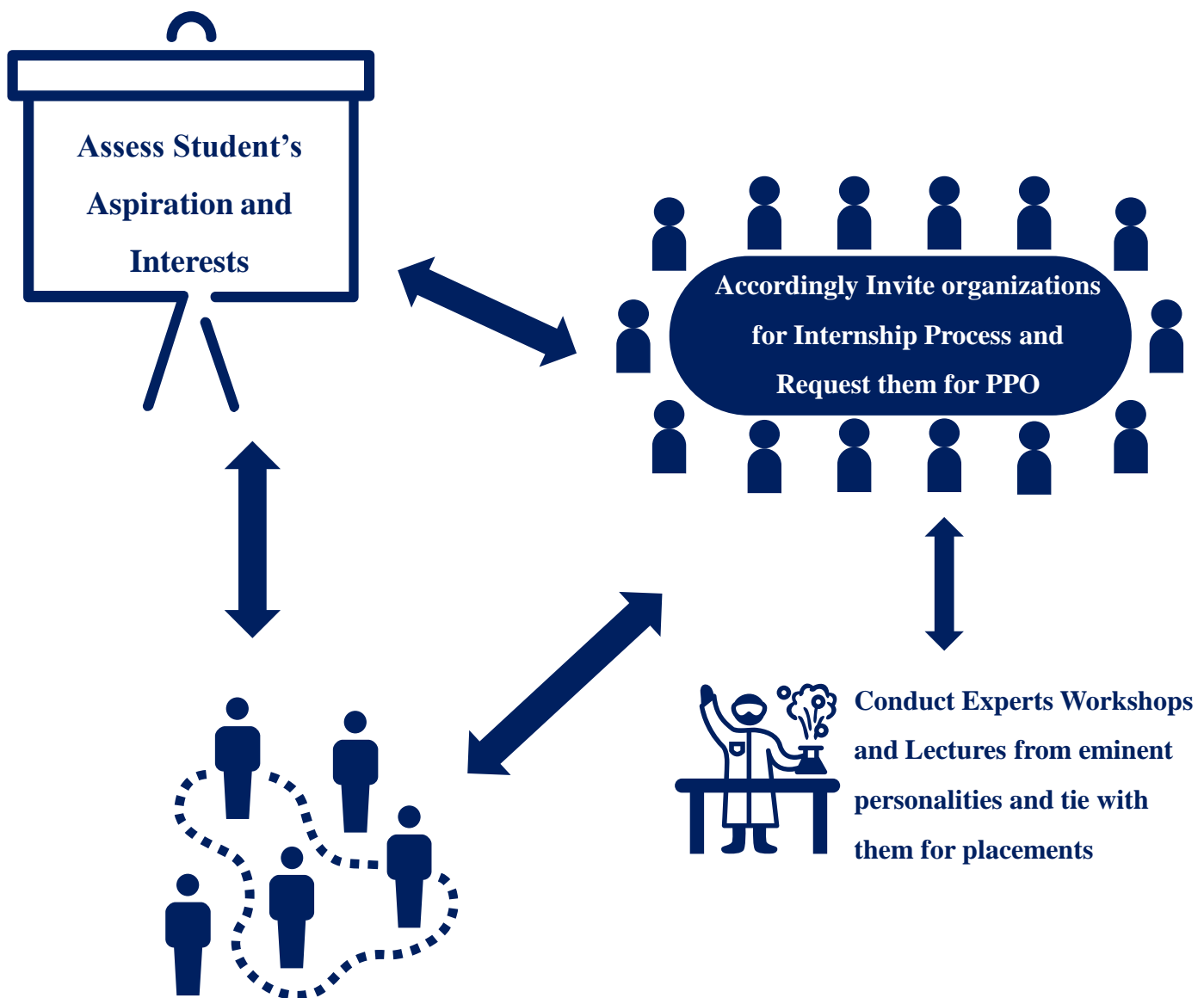
The design of the program proposes a model to create catalysts and young change makers in the field of WASH. Hence, the PIE that was proposed to be nurtured at the end of the program will be achieved through the proposed curriculum. Some of the skills that will be an add on will be sharp analytical skills and reasoning skills, strong at mathematics, team spirit, strong communication skills, leadership qualities, innovative and foresight and strong willed and self-driven. Moreover, the diploma holder will definitely possess the following skills in various capacities:





acements

Placement cell in the respective institutions needs to develop a brochure of students with their background to facilitate the placement of students. The universities should build a network of institutions for which where students do internships will get in as Management Trainees at the end of the 3rd semester. In order to facilitate better placements the institutions can adopt the following approach:



Accordingly place students and maintain a strong alumni network which will further strengthen the placements of successive batches in future.

The circular reference of networking is a sustainable approach to achieved promising and secured placement.



areer Prospects

The diploma program in WASH nurtures professionals to assume various positions at regional, national and international level. The most favorable career prospect is a WASH trainer which is the utmost need of the sector at large. However, a WASH diploma holder can aspire the following career path:

**Social
Entrepreneurship**

**Corporate
Social
Responsibility**

**Research
and
Advocacy**

**Water and
Sanitation
Consultancy**

**Marketing
and
Operations**

**Project
Management
and
Impact
Assessment**



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