



Swami Vivekananda
Contributor Personality Program



An Adani Group Initiative

UNIT 7:

Design Solutions



for students and faculty of
Gujarat Technological University

by

i-become® University
Services

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UNIT 7:

Design Solutions

Contributors approach the various situations in their life and work place with a unique mindset. This mindset we call, the 'Contributor Mindset'.

The first aspect of the Contributor Mindset is the Contributor's willingness and capacity to find solutions.

When faced with a challenge, the Contributor's first response is : "Can we find a solution?" This is unlike a Non-contributor who may respond to the challenge by trying a little and giving up, blaming others, or finding excuses to cover up the issue.

But this is not all. The Contributor also finds a solution. In other words, the Contributor develops the capacity to find solutions through continuous practice and learning from other Contributors.


Concept Exploration	pg. 2-5
Concept Application	pg. 6-19
Field Work (Project)	pg. 20
Swami Vivekananda speaks to you	pg. 21-22

Concept Exploration

EXPLORATION 1:


Non-contributors are often “rigid” about the procedure or their own way of doing things instead of focusing on the goal

I don't care if we don't complete on time or the quality is not good! I follow strict procedures...

An illustration showing two people sitting at a table with a large book labeled 'RULES'. The person on the left is speaking and gesturing towards the book, while the person on the right listens. A speech bubble from the speaker says, 'I don't care if we don't complete on time or the quality is not good! I follow strict procedures...'

Contributors are focused on goals and find appropriate methods to achieve them within the framework of the system

Let us find a way to achieve the goal...

An illustration showing two people sitting at a table with a large book labeled 'RULES'. The person on the left is speaking and gesturing, while the person on the right listens. A speech bubble from the speaker says, 'Let us find a way to achieve the goal...'

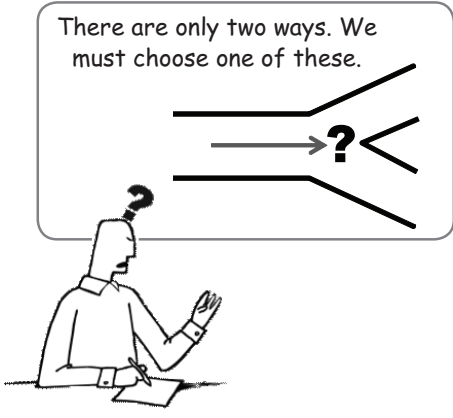
REFLECTIONS

Q1. A term that is gaining popularity in the business world is the word “jugaad”. Think of examples of how “jugaad” has been used positively in the real world. Write about these.

EXPLORATION 2:

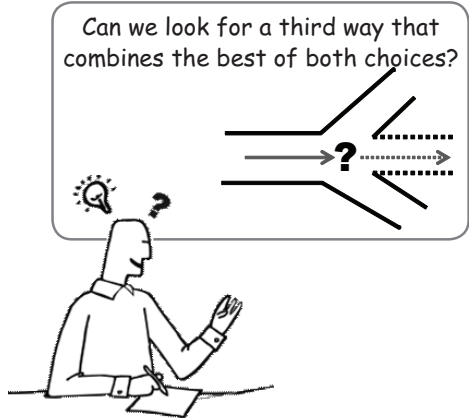
Non-contributors do not consider new possibilities¹ in their thinking

There are only two ways. We must choose one of these.



Contributors consider new / alternate possibilities¹ in their thinking

Can we look for a third way that combines the best of both choices?



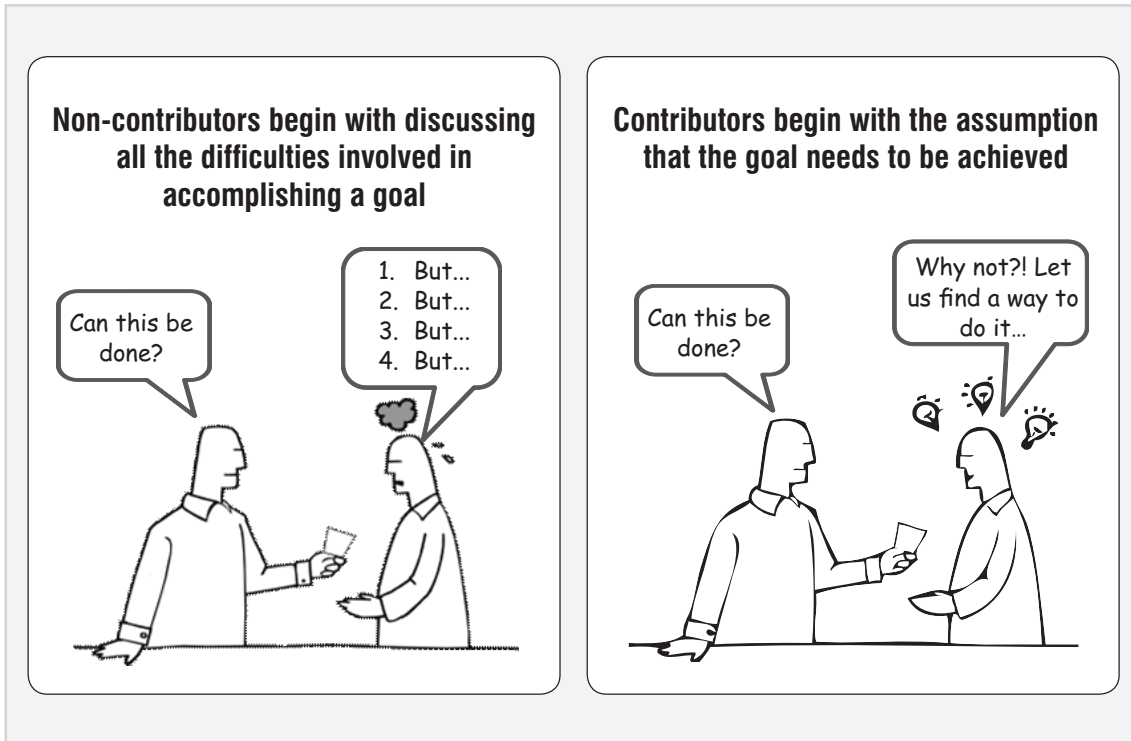
REFLECTIONS

Q1. Generating new possibilities¹ is the first step in creating innovations. Do you agree? Why?

MEANINGS:

¹ Possibilities: New ways or alternative approaches or other options to make the goal possible

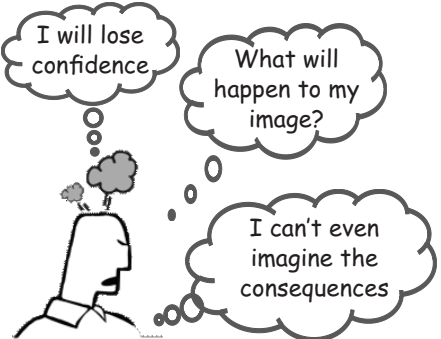
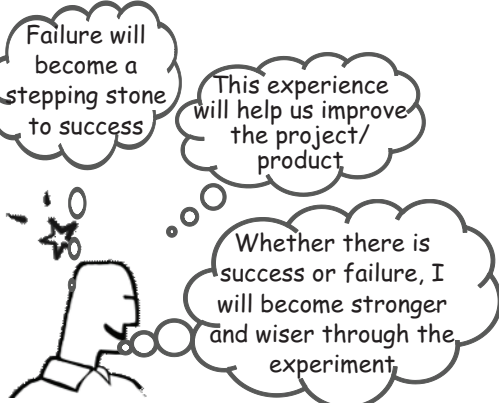
EXPLORATION 3:



 **REFLECTIONS**

Q1. Have you met individuals with the “can-do” attitude? Why are such people so valued in the workplace?

EXPLORATION 4:

<p>Non-contributors fear failure. For them, life is about safety and protecting themselves.</p>  <p>I will lose confidence</p> <p>What will happen to my image?</p> <p>I can't even imagine the consequences</p>	<p>Contributors overcome their fear of failure. For them, life is an adventure and full of challenges.</p>  <p>Failure will become a stepping stone to success</p> <p>This experience will help us improve the project/product</p> <p>Whether there is success or failure, I will become stronger and wiser through the experiment</p>
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 **REFLECTIONS**

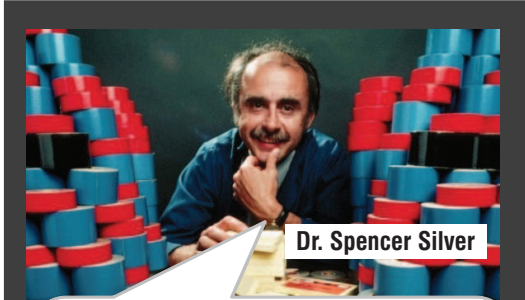
Q1. When you overcome your “fear of failure”, your willingness to try out new things increases. Share some experiences from your own life.

Concept Application

APPLICATION EXAMPLE 7.1:

CASE STORY

Story of the 'Post-it'



Dr. Spencer Silver

If I had thought about it, I wouldn't have done the experiment. The literature was full of examples that said, "you can't do this".

In 1968, Dr. Spencer Silver, a chemist with 3M, in his attempt to develop a 'strong adhesive' managed to develop only a 'weak adhesive'. Dr. Spencer, instead of being embarrassed of his discovery, shared it with his co-workers, to find a use for it. For 5 years he promoted it within 3M, but without much success.

In 1974, a colleague of his, Art Fry, who had attended one of his seminars, found a use of this weak adhesive – as bookmarks! After investing one more year in product development, Fry was able to come up with the first version of what is now known as 'Post-it'.



Art Fry

My mind was drifting back to music when I got that flash of an idea. Eureka! I think I can make book marks by applying Dr. Spencer's adhesive, so they can be stuck on and peeled off without spoiling the book.

1977: 3M LAUNCHES THE PRODUCT IN 4 CITIES, THE RESPONSE IS DISAPPOINTING.

1978: 3M ISSUES FREE SAMPLES. 95% OF PEOPLE USING THEM SAID THEY WOULD BUY IT.

1980: 3M DEBUTED IN US STORES AS "POST-IT NOTES."

1981: POST-ITS ARE LAUNCHED IN CANADA & EUROPE.

Post-its went on to become a huge world success.

 **REFLECTIONS**

Dr. Spencer did not fear failure. Thus he was willing to keep presenting his failed discovery in different forums. His persistence eventually resulted in him connecting with Art Fry in one of these forums. Art Fry, on his part, wanted an answer to his own problem. He redefined the utility of the entire discovery and came out with an alternate use of the weak glue.

Q1. What was the benefit that each received from his own different approach?

(i) benefit for Dr. Spencer

(ii) benefit for Art Fry

Q2. Think of an example where you or someone you know were able to find a solution to the problem by persistently trying different approaches to arrive at a solution until you succeeded. Write about this.

- [Hints: Write about –*
- what was the situation?*
 - what were the obstacles and failures faced?*
 - what was the response to these failures?*
 - what was the final outcome?]*

 **APPLICATION QUESTIONS**

Q.3 Think of some difficult project you would like to take up, where many people have said chances for success are low.

As a contributor, what are some of the actions or choices you could take so as to improve your team’s chances of success? Discuss to answer.

- [Hints: Think of how you can first experiment in a low-risk environment.]*

APPLICATION EXAMPLE 7.2:

STORY

Nikhil, a computer engineer, was on a visit to his village. He was distressed to see the people of his village being squeezed by middlemen. The farmers were not getting fair price for their produce.



Why can't we connect farmers to the market-place directly, using technology? That will eliminate the influence of middlemen on them.

Nikhil was excited! He didn't think this would be too hard as he was a computer engineer! Thinking this was a great idea at hand, he worked out a complete business plan.

To get started, Nikhil passed the word around in the village, calling for a meeting of all farmers. However...



Other than the local coordinator, no one turned up for the meeting.



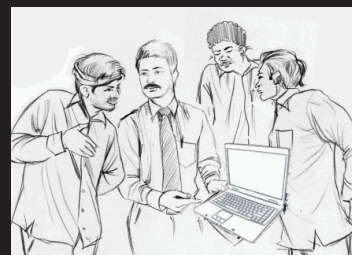
Moreover, the middlemen didn't take the matter lightly.

This is terrible! Nothing can be done here! I am better off back in my corporate job!



No! If I don't make this vision happen for my people, then who will?? It's not going to be easy - but I can & must find a solution!

Nikhil regrouped energies and readied himself for a long struggle. He began meeting farmers regularly - individually and in groups. He also met some of the middlemen and shared with them ways in which they could benefit from and support this effort. Seeing his persistence, more villagers joined in. They ran a pilot with 10 farmers using the technology to get connected to the mandi [market place]. These 10 farmers then became advocates to other farmers in the village. The movement caught on... more and more people got involved...



Three years later, not only were most of the farmers in that village using this technology, but neighboring villages had also begun replicating this.

 **REFLECTIONS**

Q1. Nikhil took responsibility for finding a solution to the situation. He believed that solutions can be found, thus even though he faced many difficulties, he struggled with the solution until he found answers – one step at a time. What were the benefits of this approach?

- [Hints: Consider the*
- benefits to the community*
 - benefits to Nikhil]*

 **APPLICATION QUESTIONS**

Q2. In the workplace, often we are faced with challenges with no easy solutions. As a Contributor, what are some strategies / tips you can learn from Nikhil’s approach, so as to find your own answers when faced with these tough situations? Discuss to answer.

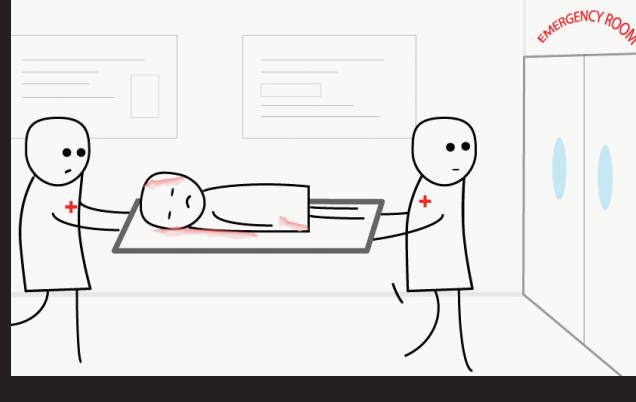
APPLICATION EXAMPLE 7.3:

STORY

Preventing accidental deaths

1


Dr. Venkat was receiving many road accident cases in his hospital. These accidents were happening about a kilometer's distance from his hospital.



2

Though he tried all medical measures to save the victims, there were still a high number of deaths.

One more accident death




I don't think we have an answer to this situation in the hospital.

3

Dr. Venkat studied the factors affecting the severity of accidents, to diagnose the causes.

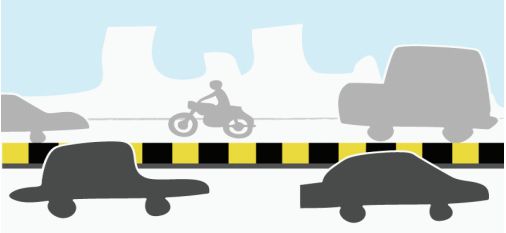
Too many road accidents are happening here. So many deaths...



When vehicles coming from opposite directions collide, then the accidents are bad. Most cases here are due to this.

4

The road outside his hospital did not have a road divider. Having identified a root-cause, Dr. Venkat worked closely with the Traffic Police to get a divider installed.



The number of accidents came down drastically.

 **REFLECTIONS**

Q1. Dr. Venkat’s functional goal as a doctor was to cure patients. What do you think were the goals that he saw at a human level, that motivated him to take the effort to find the cause and find a ‘non-medical’ solution to the challenge?

Q2. Write down 2 experiences from your life where a challenge was faced –

1. Where you saw a person focused on the process and the same old way of doing things.
2. Where the person found a new way of solving the challenge.

Compare the results of both these approaches.

 **APPLICATION QUESTIONS**

Q3. In the workplace, suppose you are asked to join a team which has to complete a task in a short time, as a contributor, which of the following would be your choice in the situation?

- You work sincerely and even do over-time*
- You do whatever is required of your role*
- You do whatever is required to reach the goal*
- You do whatever your boss tells you to do*

APPLICATION EXAMPLE 7.4:**CASE STORY**

Aravind calls itself an “eye care system” as it goes beyond the delivery of pure eye care, to additionally address barriers to accessing care.

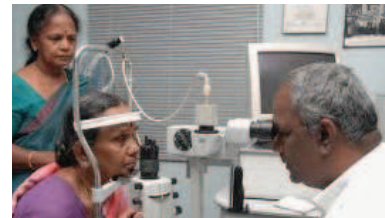
The company, on a daily basis, seeks to deliver better eye care to populations far removed from the urban centers. To achieve this goal, it continuously works on two main areas: (1) Its outreach to the rural population (2) Cost of eye care.

Aravind adopts active rural outreach. It holds “eye camps” in which it registers patients, administers eye examinations, teaches eye care, and identifies people who may require surgery.

To bring eye care costs down and make it available to people who cannot afford it, Aravind intensely focuses on increasing productivity – such as standardizing and streamlining surgeries. The system relies on intensive specialization to generate efficiencies.

A surgeon typically performs 150 cataract surgeries every week, six times the number common among Western specialists. To further lower costs, Aravind has created a sister organization to manufacture lenses, drugs etc. locally at prices one-fiftieth of U.S. prices. All these measures have greatly helped reduce costs. In addition, it has made cross-subsidization an integral part of its business model.

Thus, despite the constraints of poverty, Aravind has built a systemic solution to a complex social and medical problem.



 **REFLECTIONS**

Aravind Hospitals wanted to make affordable eye care accessible to the rural population of the country. To achieve this, they continuously found ways to reduce costs and improve efficiencies in the way eye care is done.

Q1. What are the benefits of this approach taken by Aravind?

– *To the eye care system*

– *To Aravind Hospitals*

– *To the people of India & abroad*

 **APPLICATION QUESTIONS**

Q2. Write down an example of any organization/individual who wanted to achieve a clearly defined goal. How did the goal-oriented approach influence the choices that the organization/individual made?

[Hints:

- *what was the goal?*
- *what were some of the difficult choices that had to be made?*
- *what factors were considered while making these choices?*

APPLICATION EXAMPLE 7.5:

CASE STORY

The rural branch team of a large public sector bank shares its experience...



Branch Manager

When I joined as a branch manager in Durgripal, I noticed that the largest number of loan defaulters (called NPAs or non-performing assets) were marginal farmers having very small land-holdings.



DBD Manager

These people were not in a position to repay their crop loans, being at the mercy of the climate. As a bank, we had two options — (1) refuse to give them loans (2) write-off / forget about the loans once given, leading to losses for the bank.

But then the team got together and thought — why can't we do something such that we are able to give them loans AND enable them to repay their loans? Why can't we find a way to increase their income?

The bank gave the farmers "dairy loans" to begin dairy production over and above their regular farming activities. They also enabled them to learn and set up this new line of operation. This opened up an alternative means of income for them that was not weather dependent.



Life was tough until the bank stepped in...

I started with producing 10 L milk. Today I make an annual profit of Rs.50,000/-



Now, not only are they repaying their loans on time, moving out of our NPAs list, but many have also approached us for new loans for dairy equipment, thus increasing our business!

 **REFLECTIONS**

To find a solution, this team first defined the end-state or outcome they sought (i.e. genuinely help this farmer community + protect interests of the bank). Then they went all out to find solutions. Their answer was simple: “find a way to increase their income”. The entire team then got energized to reach this goal! Through this solution approach all the issues they faced regarding the NPA status of this community disappeared.

Q1. What is the value of sharing the vision of the goals (amongst all bank team members)?

Discuss to answer.

[Hints: Consider impact on

- *team energy*
- *quality and creativity of alternate solution ideas*
- *closing the gap between “ideas” and “action”*
- *interests of the bank*
- *interests of the community]*

Q2. This case is also an example of Imaginative Sympathy (topic of Unit 11) where the bank officials appreciated the necessity of finding a solution that would genuinely help the farmers. Do you know of any other case where a solution was found at a deeper level because of genuine concern for the people involved? Write about this case.

APPLICATION EXAMPLE 7.6:

CASE STORY

The Gold Corp Challenge

In 1983, Rob McEwen took over an old under-performing Gold Mine in Red Lake district of Ontario. This Mine had very high operating costs and production was very low.



Our district had many Mines. All of which produced a lot of gold. The Mine next door had produced 10 million ounces!!! I was convinced that there was gold in our Mine too. We only had to get more people thinking on how to locate it.

McEwen attended a Linux conference. Here he got to know of the idea of "open innovation", which triggered the idea of the GoldCorp Challenge.



Wow, world class programmers coming together to develop software! That is what I want. World class experts working towards identifying digging sites in our Mines.



We did something that the Mining Industry never tried before. We released all our confidential mining data online. Experts across the globe were invited to work on it and tell us where to dig. The prize: a total of \$575,000.

Within weeks of launching of Gold Corp Challenge, submissions of 1200 people from 50 countries came flooding. Geologists, mathematicians, consultants all got involved.



There were capabilities I had never seen before in the industry. I almost fell off my chair when I saw the submissions. The contestants had identified 110 targets, 50 percent of which had not even been previously identified by the company. We hit gold!!

 **REFLECTIONS**

By re-defining his challenge as “how to bring in more experts to identify gold-yielding sites”, McEwen made the problem into one where he “knew what to do about it”. McEwen was also able to identify an approach being used by software developers and adapt it to solve a problem in his own field of work (Mining).

Q1. What choices does one need to make, to open one’s mind to solutions from other fields that could be adapted to one’s own context? Discuss to answer.

Q2. McEwen’s firm belief that ‘he could find a solution’ to his problem, made him explore new ways of thinking. Write down about one person you know who overcame a challenge because of his/her ‘I can do’ approach.

 **APPLICATION QUESTIONS**

To find solutions to complex problems, many organizations use ‘brainstorming’. These are idea generation sessions in which people from diverse backgrounds from within or outside the organization come together to discuss the problem.

Q3. What do you think are the benefits of such sessions? Discuss to answer.

– *Benefit for the organization*

– *Benefit for the participants*

APPLICATION EXAMPLE 7.7:

CASE STORY

How many of us can dare to tackle one of the world's toughest problems? Jerry Sternin, a visiting scholar at Tufts University in USA, and his wife Monique had the courage to try...

In 1990, as staff members of Save the Children, the Sternins were invited by the Vietnamese government to help fight the problem of malnutrition in 10,000 villages in the country. But once there, an impossible demand was placed before them: They had six months to produce results. That's it!



We call conventional wisdom about malnutrition 'true but useless,' or tbu... it's all about poor sanitation, ignorance, poverty, etc. Millions of kids can't wait for those issues to be addressed. Nothing has changed with outsider solutions. This wouldn't work - not in the 6 months we had to make a difference.

We had no idea what we were going to do. Our attitude was, oh my god! What's going to happen?!



More out of desperation and a little out of inspiration, we turned to the approach of "amplifying positive deviance". i.e. In any community there are some families where the children are not malnourished - these are positive deviants. If we are able to identify their practices, and transmit these to other families, we can amplify their positive effects across the community.



We observed the food preparation, cooking, and serving behaviors of these six "positive deviant" families. We found that parents of well-nourished children collected tiny shrimps, crabs, and snails from rice paddies and added them to the food, along with the greens from sweet potatoes. Although these foods were readily available, they were typically not eaten because they were considered unsafe for children.



We worked with the positive deviants to offer cooking classes to families of children suffering from malnutrition.



By the end of the program's first year, 80 percent of the 1,000 children enrolled in the program were adequately nourished. In addition, the effort was replicated within 14 villages across Vietnam. The groundbreaking work that Sternin did in Vietnam has served as a model for rehabilitating tens of thousands of children in 20 countries.

APPLICATION QUESTIONS

Sternin patiently studied the practices of the community. He then amplified / increased their positive effects by spreading this across the community. Through this they brought a huge change in the community’s malnutrition which had seemed like an unsolvable challenge. This solutioning approach called “positive deviance” originally proposed by Zeitlin in the 1980s has been formalized over time. (You can do an internet search to find out more about this.)

Similarly, many organizations have formalized ‘best practices sharing’ to address many recurring challenges. However, it is found that most employees don’t put in the effort to document and share.

Q1. What are the consequences of not sharing possible solutions and practices across the community? Discuss to answer –

– *Immediate and long-term consequences for the team and organization?*

– *Consequences for the community being served?*

– *Consequences for the individual employee?*

7.7: FIELD WORK

PROJECT 1:

Project Goal: *To identify how people (contributors) have found solutions to challenges they have faced, and how they practiced “designing solutions”.*

STEP 1: Identify any one “contributor” case where there was a challenge and the people involved designed solutions to face and address the challenge. This case could be about -

- An incident or project you or someone you know has been a part of.
- A public case or incident that you may have read / heard about (in newspapers / public knowledge).

STEP 2: Decide how you are going to present your project. As a –

- Home-video project (recording a video of interviews etc. to make a short-film on the case), OR
- Slide presentation (with photographs, factual data, insights, sound / music, etc.), OR
- Poster presentation (with photographs, factual data, insights, etc.)

STEP 3: Do a research study to collect data (video, photographs, data, etc.) for your project presentation. Your research can include –

- Primary research done by interviewing the people involved / beneficiaries in this case.
- Secondary research done by using the internet, going through newspapers and magazines, talking to experienced people who know this case well.

In your research study, find out –

- What was the main challenge? How did the people involved define their goal?
- How did the people involved go about finding a solution to this challenge?
- In this case, find out specific examples / incidents from this experience that show us how the people involved practiced “designing solutions” i.e. how they –
 - Stayed focused on the goals and found appropriate methods to achieve these goals (within the framework of the system / rules)
 - Considered new / alternate possibilities in their thinking
 - Demonstrated a “can-do” attitude
 - Overcame their “fear of failure”

STEP 4: Make your final presentation.

STEP 5: Present in the class.



Swami Vivekananda speaks to you

Stand on your own feet

Contributors do not depend on others to give them “aid”. They take up the challenges in front of them and develop their own solutions to these challenges.

“ Does higher education mean mere study of material sciences and turning out things of everyday use by machinery? The use of higher education is to find out how to solve the problems of life, and this is what is engaging the profound thought of the modern civilised world, but it was solved in our country thousands of years ago. The education which does not help the common mass of people to equip themselves for the struggle for life, which does not bring out strength of character, a spirit of philanthropy, and the courage of a lion – is it worth the name? Real education is that which enables one to stand on one’s own legs. The education that you are receiving now in schools and colleges is only making you a race of dyspeptics. You are working like machines merely, and living a jelly-fish existence.

“ Ay, in this country of ours, the very birth-place of the Vedanta, our masses have been hypnotised for ages into that state. To touch them is pollution, to sit with them is pollution! Hopeless they were born, hopeless they must remain! And the result is that they have been sinking, sinking, sinking, and have come to the last stage to which a human being can come. For what country is there in the world where man has to sleep with the cattle? And for this, blame nobody else, do not commit the mistake of the ignorant. The effect is here and the cause is here too. We are to blame. Stand up, be bold, and take the blame on your own shoulders.

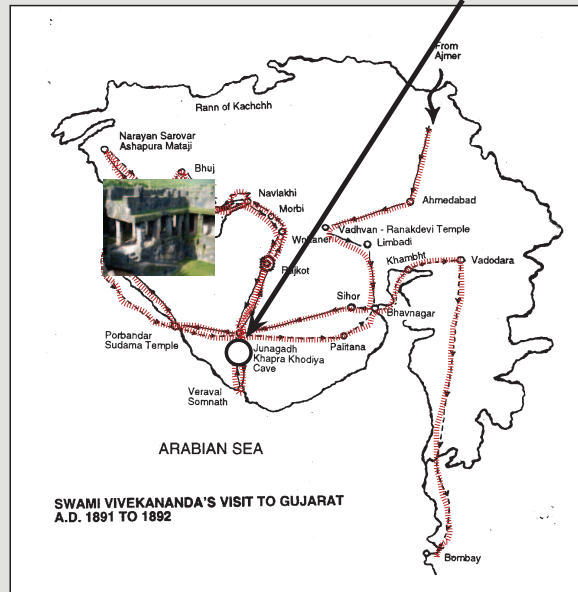
“ We want that education by which character is formed, strength of mind is increased, the intellect is expanded and by which one can stand on one’s own feet. Physical weakness is the cause of at least one-third of our miseries. We are lazy; we cannot combine. We speak of many things parrot-like but never do them. Speaking and not doing has become a habit with us. What is the cause? Physical weakness. This sort of weak brain is not being able to do anything. We must strengthen it. First of all our young men must be strong, my young friends, that is my advice to you. You will be nearer to Heaven through football than through the study of the *Gita*. You will understand *Gita* better with your biceps, your muscles, a little stronger.

“A nation is advanced in proportion as education and intelligence spread among the masses. The chief cause of India’s ruin has been the monopolizing of the whole education and intelligence of the land, by dint of pride and royal authority, among a handful of men. If we are to rise again, we shall have to do it in the same way, i.e. by spreading education among the masses. All the wealth of the world cannot help one little Indian village if the people are not taught to help themselves.

“Within man is all knowledge, and it requires only an awakening, and that much is the work of the teacher.

Source: The Complete Works of Swami Vivekananda (Published by Advaita Ashrama, 5 Dehi Entally Road, Kolkata 14, India)

Swami Vivekananda at Junagadh – 3



In Junagadh, sometime in 1892, Swami Vivekananda also came in contact with Chhaganlal H. Pandya (b.1859, d.1936) of Nadiad, a great scholar, educationist and well known in Gujarat’s literary world as translator of Sanskrit classics like Kadambari.

He was deeply impressed by Swami Vivekananda’s personality and in the introduction to his book Christnu Anukaran, a Gujarati translation of The Imitation of Christ, by Thomas A Kempis, published in 1915, Pandya gives a wonderful account of the days he spent in Swami Vivekananda’s holy company.

Chhaganlal Pandya also gave a vivid description of how Swami Vivekananda charmed and influenced everybody by his spirituality, his catholicity of views, his simplicity of life, his proficiency in music and profound knowledge of various arts and sciences, his stirring eloquence and not the least by his proficiency in the art of cuisine.

Source: Shri Ramakrishna Ashrama, Rajkot, website (www.rkmrajkot.org)

The material in this booklet is meant to be studied along with the material available at gtu.ibecome.in

You will find videos, concept presentations, quizzes to improve your understanding of the topic.

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