Towards Student Centered Teaching: A New Paradigm

Pragati Sawant
Department of Information Technology
Rajarambapu Institute of Technology Sangli, India
pragati.sawant@ritindia.edu

Abstract: 21st-century students are demanding an educational system that works for and with them. They are very curious, creative, eager to learn, and willing to try advance and new technologies. Therefore it is necessary to shift from teacher-centred teaching where teacher focused on what they are teaching, to student centered teaching where teacher focused on what students are learning. As a teacher we must act as facilitators who empower and learn from the students. The students should take more active roles as learners and that our roles change, too. This paper discusses Student centric teaching which provides an environment that engages the students allowing the construction of knowledge in a meaningful way by incorporating various interactive methods such as active learning, group learning, collaborative learning, experiential learning, etc. This paper provides more information about student-centered teaching and offers some insights into how it is implemented for IT Technology Lab course at our Department of Information Technology, K. E Society's Rajarambapu Institute of Technology.

Keywords: student-centred teaching; instructor-centred teaching; shift.

1. Introduction

Traditionally instructors focused on what they are teaching, and not on what the students are learning. Student-centred teachings shift the focus from teachers to the students. In higher education student-centred teaching approach is increasingly being encouraged. In this approach teachers do not employ a single teaching method. However, a variety of different types of methods that shifts the role of the instructors from givers of information to the facilitator are employed. The instructor creates learning environments that motivate students for learning.

The major concern of traditional teaching approach is: We are teaching. Traditional teaching methods measure declarative knowledge. They neither address depth of understanding nor the skills that the students have acquired.

Figure 1: Teacher-centered Teaching
Figure 1 shows the traditional teacher-centered teaching. It is discipline-specific where students sit in rows and teacher teaches them which is required to pass the examination.

In short,

Teaching refers: Transferring knowledge / experience

Learning refers: Acquiring Knowledge

In order to clarify the concept of Student-centred Learning, I shall compare it with more traditional way of teaching, usually called as 'Teacher-centered Learning' based on certain parameters. This may help you to clarify the notions of 'Student-centered teaching' and 'teacher-centered teaching'. Table 1 shows this comparison.

### Table 1: Student centered teaching vs. Teacher-centered teaching

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Student-centered Teaching</th>
<th>Teacher-centered Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart of Educational System</td>
<td>Student</td>
<td>Teacher</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Transmitted from teacher to students</td>
<td>Acquired by students</td>
</tr>
<tr>
<td>Learning Environment</td>
<td>Student Centered</td>
<td>Teacher Centered</td>
</tr>
<tr>
<td>Student Participation</td>
<td>Passive</td>
<td>Active</td>
</tr>
<tr>
<td>Role of Teacher</td>
<td>Leader</td>
<td>Facilitator</td>
</tr>
<tr>
<td>Learning Assessment</td>
<td>One-dimensional testing Few Tests, Mainly for grading</td>
<td>Multidimensional Testing, Many Tests, for ongoing feedback</td>
</tr>
<tr>
<td>Emphasis</td>
<td>Learning correct answers</td>
<td>Developing deeper understanding</td>
</tr>
<tr>
<td>Performance Standard</td>
<td>Competitive, Individualistic</td>
<td>Supportive approach, Collaborative</td>
</tr>
</tbody>
</table>

The major concern of student centered teaching approach is: Are they Learning? In student-centered teaching students should be at the heart of our educational efforts. Students and teachers interact equally, instead of listening to the teacher exclusively. Since, group work is encouraged, students learn to collaborate, help and communicate with one another. Figure 2 shows the student-centered teaching approach.

### Figure 2: Student-Centered Teaching

It implies two main shifts:
1. From thinking about what we teach to how and why we teach something to the students.
2. From thinking about teacher's performance to thinking about the student learning and learning processes.

### B. Principles of Student Centered Learning

"student-centered" teaching gives students choice in content and voice in product. It uses an actual person as an audience and designs learning experiences.

There are 4 principles of student-centered learning which are required to consider as we design curriculum and instructions [4]:

- **Space**
  - helps to foster creativity in students
  - That is Creative
  - That is Dynamic
That is Mobile
That is Emotionally safe
That is Cognitively agitating
Place
Providing safe and appropriate places to learn and work
That students believe they can impact
That stirs enthusiasm & curiosity of students
That they connect with in fundamentally "non-academic" ways
That reflects their needs
Choice
In learning strategies, literacy strategies, etc.
In content & priority
In media forms and content distribution
In audiences for their work
In pace & sequence
Voice
That grows as their understanding does
That reflects who they really are
In classroom/Laboratory conversations
In local community as well as around national & global events
3. Methodology

This methodology emphasizes group learning and collaboration. Students work in small groups, access data from the Internet, work together on problems, discuss solutions with their instructor, and present their results.

The instructor serves as a facilitator. Students work in groups to learn, and activities are structured to emphasize collaborative, active, student-based learning.

The 3 activities are structured for this lab as follows:

Activity A: It gives freedom to the students and honor their passion and interest
Activity B: Provides opportunity to serve the society
Activity C: Industry Visit

A. Activity A: Learn New Technology/software

Objective:

1. To honor student passion and interest
2. To create borderless learning territories for students.

Learning must matter to the learner. This activity gives autonomy and responsibility to students for material they learn. Students learn in different ways and have different learning styles. Students choose what they will learn and how they will learn. It keeps students engaged in their own learning and enabling them to achieve their dreams and goals. This part gives students choice and voice, finding ways to design learning experiences that tap into what students value. Here are five steps which are developed for creating a student-centered learning:

1. Prepare group of 3 or 4 students
2. Select the new technology which is not included in curriculum
3. Do detail study of selected technology and develop a utility/application.

Table 2 shows some of the technologies/software the students have learnt and presented.

<table>
<thead>
<tr>
<th>Technology/Software</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti Tracks Clean up junk, duplicate files, erase tracks, eliminate spam, and protect sensitive data.</td>
<td></td>
</tr>
<tr>
<td>KeePass Open source password Manager</td>
<td></td>
</tr>
<tr>
<td>F# A mature, open source, cross-platform, functional-first Programming Language</td>
<td></td>
</tr>
<tr>
<td>PEARL Scripting Language</td>
<td></td>
</tr>
<tr>
<td>Komodo Edit Free, fast and multi-language code editor</td>
<td></td>
</tr>
<tr>
<td>Ruby Programming Language</td>
<td></td>
</tr>
<tr>
<td>2-D Animation An android Application</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Sample Technologies/Software’s
B. Activity B: Community Services

Objective: To demonstrate digital literacy as well as social responsibility

As an engineer it is our social responsibility to utilise the knowledge acquired to benefit the people around us. This activity gives great opportunity to students to help the community.

The following are the guidelines given to the students:

1. Visit to various colleges/school/Nagarparishad and create awareness about IT

OR

Develop software and donate it to open source community.

<table>
<thead>
<tr>
<th>Areas covered under Community Services</th>
<th>Name of Organization (or Community Addressed)</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Children</td>
<td>Vijaymala Ashramshala</td>
<td>Kapuskhed</td>
</tr>
<tr>
<td>Youth students</td>
<td>Chate Coaching to Classes</td>
<td>Islampur</td>
</tr>
<tr>
<td>Agriculture</td>
<td>Farmers Urun to Rajbageshwar areas of Islampur city</td>
<td>Urun, Anantnagar &amp; Rajbageshwar</td>
</tr>
<tr>
<td>Highschool undertaken.</td>
<td>Shiye Highschool, Junior College, Shiye</td>
<td>Shiye, Kolhapur</td>
</tr>
<tr>
<td>Education</td>
<td>Shivkedar, Vidyalaya</td>
<td>Kande</td>
</tr>
<tr>
<td>Nagarparishad</td>
<td>Karad Nagarparishad</td>
<td>Karad</td>
</tr>
</tbody>
</table>

Table 3: Sample Community Services student have undertaken.

Assessment: The teacher becomes a participant and co-learner in discussion, asking questions about working culture of industry.

4. Observations And Findings

The Student-centered teaching approach benefited the students to improve and deepen their understanding about the facts. But it has some drawbacks as well. In this section we will discuss the pros and cons of the methodology which is used to implement student centred teaching.

Advantages of using Student-Centered Teaching

- Students effectively learn communicative and collaborative skills through group work.
- Students learned to complete tasks independently.
- Students interact with one another and participate actively.
- Learning skills of the student are developed.
- The roles of instructor became facilitative rather than didactic.
- The responsibility for learning shifts from the instructor to the students.
- Student-centered teaching method uses assessment as a part of the learning process.
- Learning becomes interesting and enjoyable.
- Students retained more of the concepts that they chose to address.

Disadvantages of using Student-Centered Teaching

- Sometimes group work can become problematic as students prefer to work alone.
- When students are working on different stages of the same project then it becomes difficult for teacher to manage all students.
- Some students may miss important facts because the teacher doesn't deliver instruction to all students at once.
**Conclusion**

After adopting this methodology it was identified that students get more enthusiastic, motivated and curious to learn new things. Group activities encouraged them to demonstrate creativity, communication, and collaboration. Activity A and B gives them opportunity to learn new technologies and understand social responsibility. Students became capable of accepting more responsibility for their own learning. As future teachers it is our responsibility to care about our student's effective learning and try to teach them from all different aspects.

**References**


