Analysis of Problems faced by Dropout students and solving them using Design Thinking

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ABSTRACT
Education is the basic requirement for human development. With education, employment opportunities are broadened and income levels are increased. According to the survey conducted by the National Statistical Office (NSO) of the Indian government, one out of every eight students enrolled in an educational institution drops out, and over 62% of all dropouts occur at school level and 62.9% of all dropouts occur in high school. This paper examines why students drop out of school and what can be done as the solution. Reducing the number of dropouts has become a national policy concern. This paper tries to resolve problems faced by the dropouts using Design Thinking (DT) technology. Design thinking challenges old ways of thinking. It doesn't look at problems from a prejudiced perspective. Instead, it always starts with the end-user. Design thinking focuses on users and their needs, encourages brainstorming and prototyping and rewards out of the box thinking that takes wild ideas and transforms them into real-world solutions.
 Keywords: Education, Design Thinking, Brainstorming, Prototyping, End-user

1. Introduction

The high dropout rates in Western countries sharply contrast with the social and economic objectives which have been formulated by the government and policymakers in order to achieve sustainable economic growth. Educational dropout has been defined as leaving education without completing the course fully. The present paper tried to understand the differentials and factors associated with educational dropouts in India. The dropouts among children belonging to Muslim, Scheduled Caste and Scheduled Tribe families seemed to be higher. The dropouts among children belonging to illiterate parents were four times higher than that of the literate parents. This paper examines how to find a solution for this national concern using Design Thinking. Design Thinking was developed by Stanford Professor David Kelley who is also the founder of Design Agency IDEO. Design thinking is a problem solving framework. It is a user-centered approach to solving problems. Young people can use design thinking to determine problems they would like to solve in their community, work in teams, brainstorm solutions, investigate ideas, and critically analyse the ones they would like to. In this way they can see the role they have to play as contributing members of the society. Unless and until there is considerable improvement in the economic status of households and change in social attitudes of parents, achieving the aim of student retention will remain a major challenge for India.

2. Methodology used: Design Thinking

Design Thinking is a process for coming up with creative solutions to problems. It involves breaking down a problem into smaller pieces, and then thinking about creative ways to solve each piece. This process can be used for any type of problem, from personal issues to business problems. It involves

breaking down a problem into smaller pieces and then thinking about creative ways to solve each piece. It is a great way to come up with solutions outside-the-box that can make a big impact.

The five steps of the design thinking process are: empathise, define, ideate, prototype, and test. DT empathise with the users, define the problem, ideate potential solutions and test it out.

● **Empathise:** This step involves putting ourselves in their shoes and seeing the world from their perspective. Only then one can begin understanding their needs. By taking time to understand their needs, we can create better design solutions that meet their needs.

● **Define:** Defining the problem helps the team identify the goals that the solution needs to achieve. Once we get a good understanding of users, we then define the problem. Without a clear understanding of the problem, it is difficult to come up with an effective solution.

● **Ideate:** It involves brainstorming potential solutions. In this step we let our creativity run wild without thinking about its feasibility. The act of ideation is a powerful tool that can generate a lot of potential solutions to any problem.

Prototyping: It helps the team narrow down the best solution and make sure it will work.

● **Test:** This is putting the prototype to the test. This checks whether the solutions solve the problem or not. If it doesn't then we go back and start again. Testing allows the team to see how well the solution works in the real world.

Fig 1. Steps of Design Thinking

3. Understanding the real problem -Empathise and define
Here we examine why students drop out from their educational institution and what are the consequences that they face thereafter.

There are actually a set of reasons found that trigger student's dropout rates. These include:

1) Expensive tuition fee: This was found as the first and foremost reason why students drop out. The skyrocketing fees increase student debts, pushing those from underprivileged backgrounds suffer further. A survey conducted by the India Times shows that around 50 percent of young adults who cannot afford college, dropped out.

2) unhappy with the college ambience: Nagging roommates, overloaded with course works was found to be the next reason why students drop out. The case gets worse when the colleges do not take them from the process of recruitment through placement appropriately.

3) Opting the wrong course: Figuring out the right course of study for a successful career path can always be a struggle. The truth is that around 80% of college students get confused about changing their major at least once by the end of their study.

4) Academic inadequacy: When higher education lacks this, there seems to be a dip in student's performance, which becomes a major reason for students to pull out.

5) Life situations and other outside demands: There occurs unexpected life situations that can lead to students dropping out of college or university. Illness or illness of a family member, financial limitations can all contribute to why a student may be forced to relinquish his or her college education for time being.

6) No individual attention or guidance: At colleges, especially in the first year, guidance and individual attention from a counsellor or mentor may not exist.
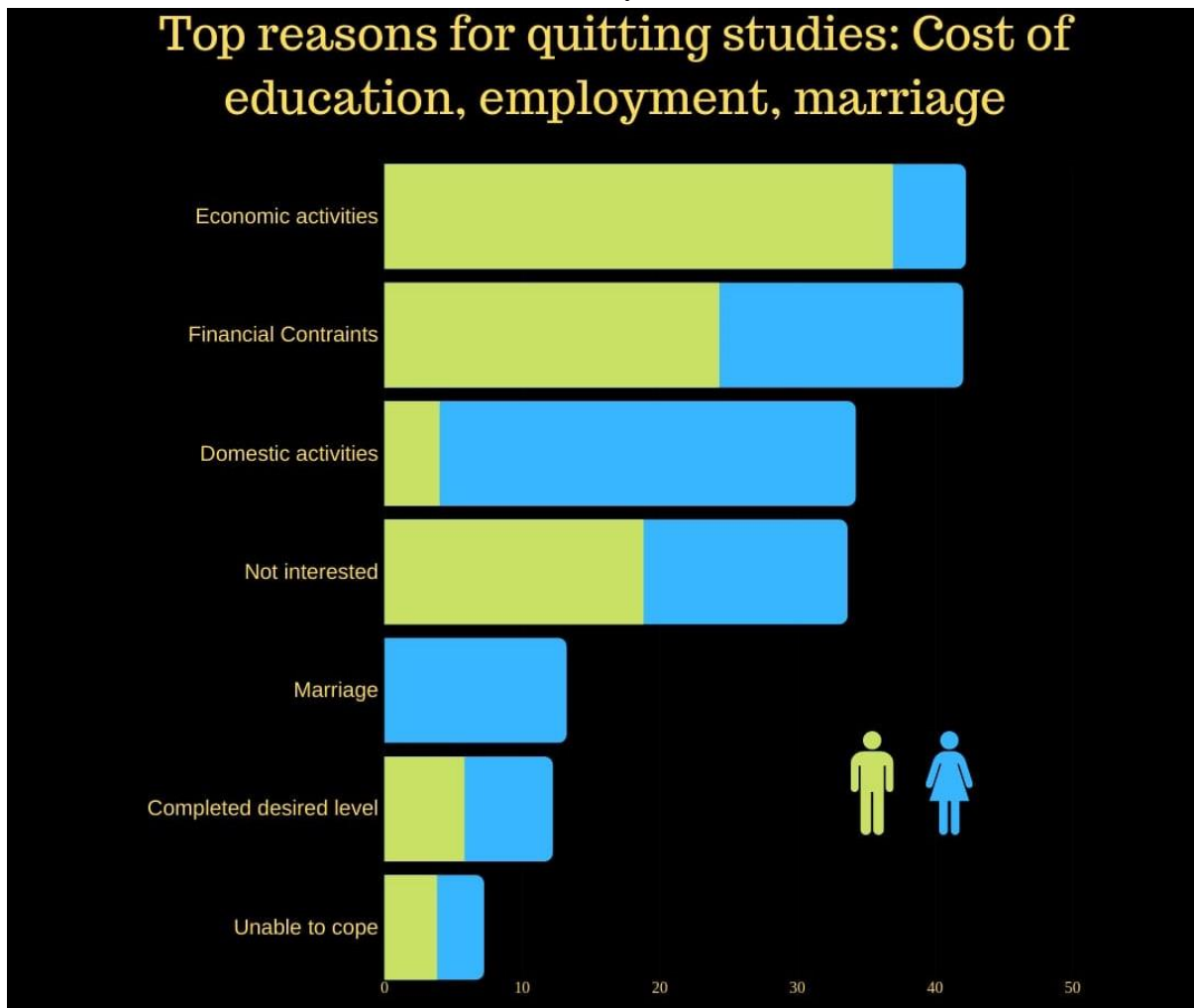

Fig 2. Top reasons for quitting studies

Researches found that not only the students but also the educational institutions also get equally affected with the student dropout rates.

On the part of students, they may face difficulty in getting places in another course and eventually have to waste time waiting for the start of next academic year. They may lose scholarships. Due to incompletion of the course, they also might lose job opportunities as well.

On the other hand, the educational institution may face problems relating to their reputation and goodwill. There is a chance of financial crisis in the case of a high amount of student dropouts. It may also influence the other students negatively, creating a bad impression about the institution.

4. Finding solution- ideate and prototype

Some of the solutions that found convincing are:

1) Reduce the cost of education: Providing textbooks and other needed materials free of cost can considerably reduce the overall cost of education. Allowing students to buy textbooks from their seniors could also help.

2) Pay special attention to at-risk students: watch out for warning signs that a child may be close to dropping out. If students are failing in maths or english, are absent for more than 20 days of school in 0ne year, or earn fewer credits throughout the year, they are more likely to drop out. Reach out to these students.

3) Pair students with advisors: Have academic advisors check in with students throughout the school year. Pair up the students with their advisors and let them meet on a weekly or monthly basis.

4) Connect with parents outside of school: Make parent-teacher whatsapp groups so that the teachers can share the overall performance of each student to their respective parents, make appointments with at-risk students for home visits.

5) Make learning relevant: Boredom and disengagement are two key reasons students stop attending classes and wind up dropping out of school. Instructions that take students into a broader community provide opportunities for all students, especially experienced learners, to connect to academics in a deeper and more powerful way.

6) Adopt a student-centered funding model: This factor adjusts the funding amount based on the demographics of individual students and schools, and more closely aligns funding to their unique needs.

7) Spread value of education among students

8) Digital learning strategies: It can be used to provide education in homes, students can access educational content through smart phone applications or youtube provided by the institution.

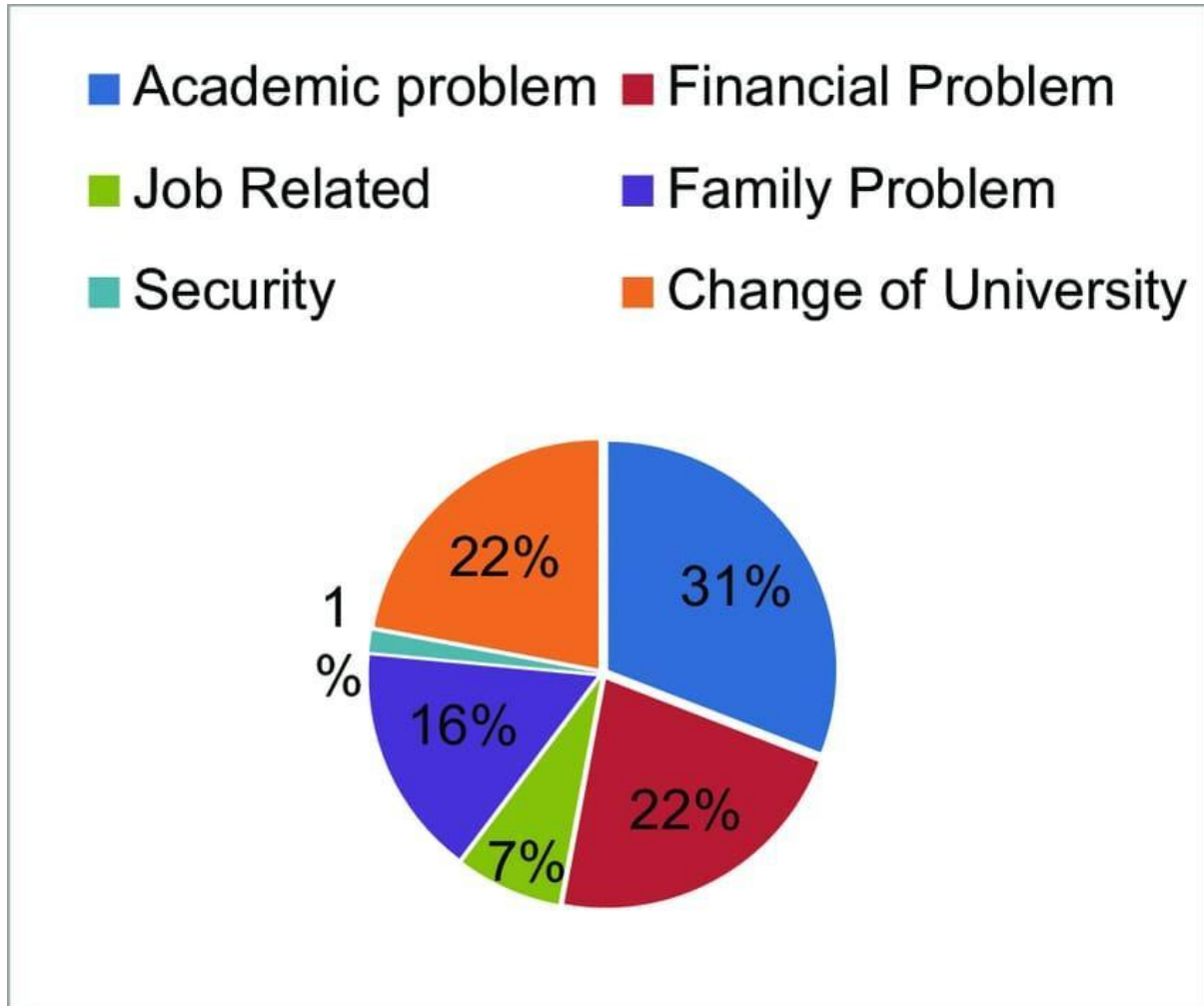**9) Improve communication between parents and schools.**

Fig 3. Problems dropouts face

5. Test Result:

It has been found that the Drop-out rates fell to 1.2% at the primary level in 2019-20 while they dropped to 15.1% from 17% in 2018-19 and 18.4% in 2017-18 at the secondary level. According to the Economic Review, Kerala has achieved the distinction of having the lowest dropout rate of school students among the States. In Kerala, the dropout rate for the high school segment has declined from 0.33% in 2016-17 to 0.15% in 2019-2020. In the lower primary segment, it has dipped from 0.2% to 0.11% and in the upper primary classes, from 0.11% to 0.6%.

6. Conclusion:

Using the design thinking process can result in lifelong skills. Design thinking recognizes the designer in everyone-and the validity of multiple perspectives. When we transition from designing for someone to designing with someone, we can truly solve problems effectively. This shift in thinking can be used in all aspects of both in personal and professional life. The result of the solutions dig out using design thinking cannot be overnight, but retention rates can be curbed down and issues can be

straightened up. There is a growing body of research which suggests that educational institutions can improve their students' chances of success by working to understand student frustrations, providing appropriate supports, and finding ways to help them over the rough spots. They should strengthen communication with parents to ensure that students come to schools and colleges. Schools must also develop early-warning system like tracking absenteeism, and provide them more support. Finally the government needs to evaluate dropout prevention programs and help disseminate best practices.

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