

## A game changer for Indian Education System

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*Since education forms the basis of all knowledge and progress, contribution of AI to educational sector is most beneficial. A study states that within couple of years, the application of AI in education and learning will increase significantly. Beyond academics, it can also streamline students' career choices. This episode describes how empowering and updating educational systems with AI has resulted in better impartment of knowledge, evaluation process and also administration. The episode also describes how AI can be used effectively in Indian educational system.*

### List of Characters :

**Rohan :** A college going boy (age about 17-18 years)

**Mrs. Radhika Sharma :** Rohan's mother (age about 45 years)

**Mr. Ranjan Sharma :** Rohan's Father (age about 50 years)

**Principal :** College principal (age about 50 years)

**Mrs. Das :** IT Prof in college (age about 45 – 50 years)

*(Sunday morning. Rohan is playing some game on mobile. Certain sounds of the mobile game are heard. Ranjan is reading newspaper)*

**Radhika :** What is this Rohan? Right from morning you are just busy with the mobile... There is hardly a month left for the final exams and you are not leaving that mobile... At least you should have a bath and breakfast first!

**Rohan :** Hmm...

**Radhika :** *(To Ranjan)* You are also not saying anything to him!

**Ranjan :** Radhika, what should I tell him? He is grown up now. He should understand what is important and decide the priorities.

**Rohan :** Correct, Pappa! You said it!

**Radhika :** Hmm! This is our 'grown up child'! You both are not taking me seriously. But remember my words when results will be declared.

**Rohan :** Come on Mamma! Don't worry about my result. I am studying!

**Radhika :** Rohan, don't fool me. Up to last year, you were studying seriously. But, as and when your Pappa had bought this new smart phone, you have lost all your interest in studying.

**Ranjan :** Ohhh! Now its my turn to have firing! (laughs)

**Radhika :** *(With irritation)* It's not fruitful to talk with both of you on this issue. Let me go to do my job. I cannot keep you waiting for the food and keeping myself busy in playing with mobile or reading newspaper like you!

*(Radhika goes inside. Rohan is still busy in playing with the mobile)*

**Ranjan :** Rohan beta, what Mamma is telling is correct! Now you should focus on your studies, rather than playing on the mobile.

**Rohan :** Hmmm!

**Ranjan :** Beserious Rohan. I am talking with you!

**Rohan :** Yes, Pappa.... I am listening.

**Ranjan :** This is not the way to talk Rohan!

**Rohan :** Pappa, let me finish this level first!

**Ranjan :** Rohan, this is the height of arrogance! Don't try my patience now.

**Rohan :** Come on Pappa.... Just a second! *(Suddenly 'a cheer up' music is heard from the mobile)*

Okay! Done! Now let's have a discussion, Pappa!

**Ranjan :** I am really getting fade up now. Everyday, I am hearing the same issue in our home. Can't you understand your responsibility?

**Rohan :** I know Pappa. This is also a part of my study!

**Ranjan :** What? Are you making me fool? I know you were playing games on the mobile. Be honest! It seems you have now become mobile addict.

**Rohan :** Try to understand Pappa...

**Ranjan :** You are not understanding Rohan! Have we ever stopped you to do anything? After all it's a question of your career. Actually, its my mistake that I have bought a new smart phone for you. Now, I will fix an appointment with counsellor for you!

**Rohan :** But Pappa...

**Ranjan :** Now I will not listen to you. I have decided... and it's final now.

*(Change over Music Piece. In the next scene, Ranjan and Radhika are discussing about the problem of Rohan)*

**Ranjan :** Radhika, I think this is the high time now. We will have to take Rohan to the counsellor now!

**Radhika :** Ranjan, don't get panic. He will study....

**Ranjan :** Then why do you scold him, every now and then.

**Radhika :** As a parent, we should do that, but this does not mean that he needs a counsellor.

**Ranjan :** Then, don't blame me.

**Radhika :** I think you are losing your patience now.

**Ranjan :** Then what we have to do now?

**Radhika :** I think we should go to Rohan's college and meet his teachers or principal.

**Ranjan :** Why?

**Radhika :** We will ask them about the progress of Rohan. Let's see what they are saying about Rohan and then we will decide what is to be done next.

**Ranjan :** Good idea, Radhika! I will ring to the college and take appointments of Rohan's teachers.

**Radhika :** Yes... done!

*(Change over Music Piece. In the next scene, Ranjan and Radhika are waiting outside the cabin of college principal.)*

**Ranjan :** Radhika, I hope, Principal will give his time to talk with us.

**Radhika :** He will. You have taken his appointment and we are in time.

**Ranjan :** Ok. Shall we go in?

**Radhika :** Yes!

*(Ranjan knocks the door. Sound of knocking door.)*

**Ranjan :** May we come in Sir?

**Principal :** Mr. and Mrs. Sharma?

**Ranjan :** Yes Sir!

**Principal :** Ya... Come in. Have a seat.

*(Ranjan and Radhika pull the chair. Sound of pulling chairs)*

**Ranjan :** Thanks Sir!

**Radhika :** Actually we are grateful to you for sparing your valuable time for us.

**Principal :** (Laughing) It's not like that Mrs. Sharma. We also would like to interact with the parents of our students. It's helpful for the betterment of the student. Any ways, let's come to the point...

**Ranjan :** Actually Sir, we may be wrong, but...

**Principal :** Don't hesitate Mr. Sharma. Feel free. I am always open for the discussion.

**Ranjan :** Thanks Sir. Actually, you may say this is none of our business, but we thought ...

**Principal :** Go ahead, Mr. Sharma.

**Ranjan :** Actually Sir, our son, Rohan is a very good boy... obedient... sincere and brilliant as well.

**Principal :** Yes, I know!

**Ranjan :** But Sir, the issue is he is spending too much time on mobile phone now a days!

**Principal :** (Laughing) Mr. Sharma, this is the complaint from every parent now!

**Radhika :** Sir, the worry is that, he keeps on saying that he is studying! Actually, he has started lying. If this continues then the situation may become out of control for us.

**Principal :** Okay, let me check whether he is now active on his mobile or what?

**Radhika :** But Sir, how can you check it from here?

**Principal :** Wait a minute.... I will show you!

**Ranjan :** That means –

**Principal :** Mr. and Mrs. Sharma, see here on the screen. There is green light against Rohan Sharma's name. That means he is active on the phone.

**Radhika :** But Sir, he is supposed to be in his classroom right now!

**Principal :** Let me check that also! Ummm... Yes! See here. His location is in this building!

**Ranjan :** That means, you are continuously keeping watch on your students!

**Principal :** Don't misunderstand Mr. Sharma!

**Ranjan :** No Sir! I mean to say –

**Principal :** I will clear all your doubts and confusion. Actually, you were not there for the parents' meeting, so –

**Ranjan :** Actually we were on tour, so could not –

**Principal :** Don't worry, Mr. Sharma. I will explain you.

**Ranjan :** Thanks Sir.

**Principal :** Actually, you know that, ours is very reputed college and we always try to improve our standards. That's why we have such a good reputation.

**Ranjan :** Yes Sir!

**Principal :** So recently, according to the guidelines in our national programme 'Digital India', we have started using innovative and smart tools in teaching – learning process.

**Ranjan :** Okay!

**Principal :** Actually we are not only using these tools for teaching and learning, but in the administration of this institution as well.

**Radhika :** What are those tools and how are they related to mobile?

**Principal :** Well, Mrs. Sharma I will elaborate this. Have you heard the term 'Artificial Intelligence'?

**Radhika :** Yes Sir! Long ago, I had read about a chess game in which computer had played against one grandmaster....

**Principal :** (Laughing) Correct, Mrs. Sharma! But it was in 1996 when Gary Kasparov played a series of six games against a supercomputer, named Deep Blue. In that series, Kasparov had an upper hand over Deep Blue, but Deep Blue defeated Kasparov in the series played in 1997.

**Ranjan :** Ya...

**Principal :** But that was long back. The world has changed a lot in last twenty years or so. Now artificial intelligence is being used in everyday life also.

**Ranjan :** Yes... and it has made life easier and efficient also!

**Principal :** Correct Mr. Sharma, and therefore we are using latest tools of artificial intelligence in our institute. Academia worldwide is implementing and utilizing artificial intelligence in administration, learning, tutoring, grading, and assessments.

**Ranjan :** Ohh! Is it?

**Principal :** From letting teachers concentrate on building the minds of students instead of checking copies, to tailoring the learning process for each individual student, artificial intelligence is totally revolutionising the teaching-learning process in education. Several artificial intelligence tools are being successfully used in other parts of the world, and they can be also used to overcome the challenges in our educational system. Artificial intelligence tools can automate the expedition of administrative duties for teachers and academic institutions.

**Radhika :** How is it possible Sir?

**Principal :** Mrs. Sharma, in general teachers require to spend a lot of time on grading exams, assessing homework, and providing valuable responses to their students. But technology can be used to automate the grading tasks where multiple tests are involved.

- Ranjan :** This means that teachers would have more time with their students rather than spending long hours grading them.
- Principal :** Absolutely! Another important aspect of using tools of artificial intelligence in education is that, we can have personalized learning.
- Radhika :** Personalized learning? Means?
- Principal :** Mr. and Mrs. Sharma, any curriculum is designed to suit as many as 80 per cent students who are in the middle range of educational abilities and skills. However, the students in the top 10 per cent, like Rohan, are struggling to attain their full potential. Similarly, students in the bottom 10 per cent face difficulties in following the curriculum.
- Ranjan :** That's right!
- Principal :** But when now with artificial intelligence, we are in a position to perform much better by offering personalized recommendations to each student. The software customizes in-class assignments as well as final exams, ensuring that students get the best possible assistance.
- Ranjan :** That's great Sir! Otherwise, who would have imagined that in a class full of students, teachers could fully identify each one's strengths and weaknesses and work on them individually!
- Principal :** But with the help of artificial intelligence we can do that... in fact we are practicing it!
- Radhika :** Actually now we are feeling proud that Rohan got admission in this college.
- Principal :** (laughing) Mrs. Sharma we are just facilitators. In fact, education has no limits, and artificial intelligence can help to eliminate the boundaries. Technology brings drastic transitions by facilitating the learning of any course from anywhere across the globe and at any time. AI-powered education equips students with fundamental IT skills. With more inventions, there will be a wider range of courses available online and with the help of AI, students will be learning from wherever they are.
- Radhika :** That means it is highly helpful to those students who are unable to attend school or college due to an illness or want to study a different course from the one available in their school.
- Principal :** Actually, Government of Andhra Pradesh is making concerted efforts to bring down the school dropout rate in the state. It has tied up with Microsoft to address students predicted to drop out of school. Based on specific parameters, such as gender, socio-economic demographics, academic performance, school infrastructure and teacher skills, an application powered by Azure Machine Learning processes the data pertaining to all students to find predictive patterns. Our NITI Aayog also featured 'ReadEx', an android application that does real-time question generation using natural language processing, content recommendations, and flashcard creation.

**Radhika :** Sir, you said, you can see whether Rohan is using mobile phone or not! How is it possible?

**Principal :** Actually, Mrs. Sharma we have asked students to download the smart app in their phone. This app is specially designed and it is assisting us in entire educational process. Once the student has logged in for a particular session, we get its intimation along with his or her location. Moreover, as an admin we can keep track on what the student is doing!

**Radhika :** Ohhh.... That means Rohan was not lying. He is using this app for studying. But Sir, still I have a doubt in my mind!

**Principal :** Go ahead, Mrs. Sharma.

**Radhika :** Many times I have observed that Rohan is playing games.... And Sir, you know how certain games have spoiled the life of many students.

**Principal :** You are right Mrs. Sharma. Actually we have also very interesting games, but of course they lead to study various concepts in study. For example, to learn various reactions and concepts in Chemistry, we use games like treasure hunt. I understand your concern as a parent, but our app is smart. It locks down the game automatically after certain interval of time in a given day. Also, we have made arrangements to restrict the screen time to protect his or her physical and mental health of the students.

**Radhika :** From your side, its correct Sir, but students don't listen to their parents and then they become addicted to such technologies and gadgets like smart phone.

**Principal :** Yes, its true, but Mrs. Sharma, this is the era of technology. Today, children are curious about the smart conversational devices and applications like Siri and Alexa; some of them even wonder how Netflix gives them precise recommendations. Now its our responsibility to channelize their curiosity. Gradually, these students will grow curious and try to learn what algorithms are, what a neural network is, and how they work. The Government of India and the educational boards have been taking measures to make the existing school curriculum more AI-centric with a firm belief that the students will learn about AI, have fun and also take India forward.

**Ranjan :** Hmmmm. That's great!

**Principal :** Mr. and Mrs. Sharma what I suggest is please meet Mrs. Das who is our IT professor. She will tell you more about why and how we are using artificial intelligence tools in educational practices.

**Ranjan :** Sure Sir!

**Principal :** Okay. Let me call her. *(Sound of pressing keys on telephone keypad. Principal calls Mrs. Das on intercom)* Hello Mrs. Das... Will you please come in my cabin?... Ok. *(Keeps the phone down)* Ya...She is coming.

**Ranjan :** We will definitely talk to her... and thank you so much Sir for sparing your time and moreover giving such valuable information.

*(Sound of knocking of the door. Prof. Mrs. Das knocks the door of the cabin and comes in)*

**Mrs. Das :** May I come in Sir?

**Principal :** Yes, Mrs. Das! Here are Mr. and Mrs. Sharma... parents of Rohan Sharma!

**Mrs. Das :** Hello!

**Radhika :** Hello.

**Principal :** I have discussed with them but you just demonstrate how do we use AI in our educational system.

**Mrs. Das :** Sure Sir!

**Principal :** Okay then, Mr. and Mrs. Sharma... hope I have cleared your doubts....

**Ranjan :** Yes Sir!

**Principal :** And don't worry about Rohan. He is a very good students. Okay?

**Ranjan :** Thanks Sir! Thank you very much.

**Mrs. Das :** Let's come to my cabin.

**Radhika :** Yes, sure!

*(Change over Music Piece. In the next scene, Ranjan and Radhika are sitting in the cabin of Prof. Mrs. Das.)*

**Mrs. Das :** Mr. and Mrs. Sharma, our Principal might have given you the idea about the use of artificial intelligence and its importance in education sector.

**Radhika :** Yes!

**Mrs. Das :** Let me show you how actually we work in our college. See on this screen. You can imagine, textbooks are taking a new turn. AI systems are using traditional syllabuses to create customized textbooks for certain subjects. As a result, textbooks are being digitized, and new learning interfaces are being created to help students of all academic grades and ages... See here!

**Ranjan :** That's great!

**Mrs. Das :** That's right, Mr. Sharma! Here we are using mechanisms like 'Cram101' which use AI to make textbook contents more comprehensible and it is easy to navigate with summaries of the chapters, flashcards, and practical tests.

**Ranjan :** This will definitely create interest in learning.

**Mrs. Das :** More importantly, students can learn with their own pace. Thus, AI tools understand learner's capacity and calibrates the contents and evaluation schemes accordingly. There are facilities to choose proper pedagogy which suits the learner. By knowing the abilities and interests of the students, AI tools can also streamline students' career choices.



**Ranjan :** Ohhh...

**Mrs. Das :** The other useful AI interface is the 'Netex Learning' which enables professors to create electronic curriculums and educative information across a myriad of devices. Netex includes online assistance programs, audios, and illustrative videos. It helps educators plan lessons and adopt effective methodologies.

**Radhika :** So this artificial intelligence is not only useful for students but for teachers also.

**Mrs. Das :** Yes, absolutely Mrs. Sharma. Through AI-powered apps, students get targeted and customized responses from their teachers. Teachers can condense lessons into smart study guides and flashcards. They can also teach students depending on the challenges they face in studying class materials. Unlike in the past, college students can now access a larger window time for interacting with professors. Thanks to AI, smart tutoring systems, like Carnegie Learning, can offer quick feedback and work directly with students. Even though these methods are still in their inception stages, they will soon become fully-fledged digital teachers to assist students with any educational needs.

**Ranjan :** That's wonderful!

**Mrs. Das :** So Mr. and Mrs. Sharma, that's how we are doing. And don't worry about the screen time of your ward because we are asking students to do lot of hands on experimentation and project work also.

**Ranjan :** No...no Mrs. Das, now we are not worried but now we are relieved seeing future of all these students in this college is bright. Thank you very much!

**Mrs. Das :** Mr. Sharma, Say thanks to AI.

**Ranjan :** Yes, of course!

*(All laughs)*

*(Music piece. Episode ends)*

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