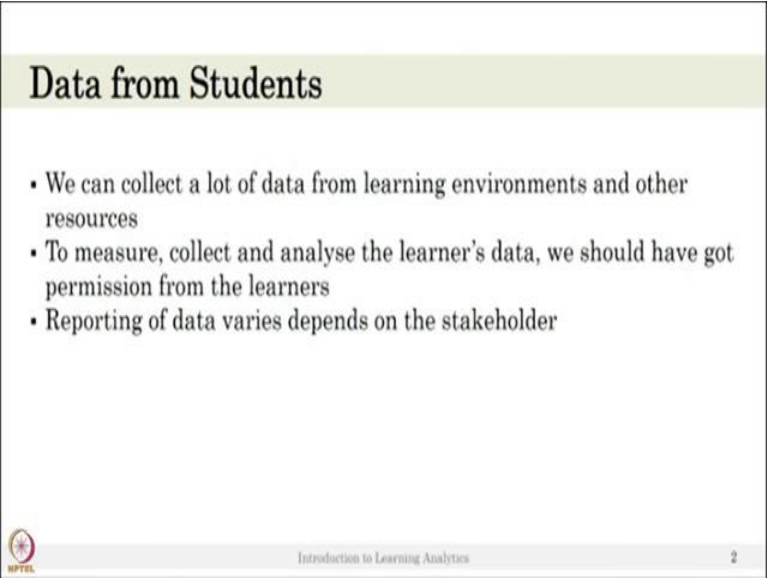


Introduction to Learning Analytics
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Lecture-09
Ethics and Privacy of Data in LA

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Data from Students

- We can collect a lot of data from learning environments and other resources
- To measure, collect and analyse the learner's data, we should have got permission from the learners
- Reporting of data varies depends on the stakeholder

 Introduction to Learning Analytics 2


We have seen that we can collect a lot of data from learning environments, classroom, online, TEL environments and also from other resources like eye gaze data, facial expressions. So, we have seen that in last three classes. But to measure collect and analyze the learner's data, we should have got a permission from the learners. If you remember the definition of learning analytics, it says that measure collect analyze and report. So, in order to measure collect analyze the data you should have permission from the learners. Also to report the data it should be varied based on whom we are reporting.

if you are reporting the research data to a teacher you can explain what is happened to the class and what student is going through and you can even tell which student name and student id it's possible. But if you want to report the data to public what kind of data you should report?

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Activity

- Given you have seen various types of data collection methods and the types of analysis that can be performed on the data, if you are a researcher, what are the primary steps you will take to protect Ethics and data privacy?



Introduction to Learning Analytics 3

In this activity, consider you have lot of data collected from different resources and in the last class you have seen what kind of analysis can be performed on this data like diagnostic, descriptive analytics or predictive analytics. Consider you are a researcher, what are the primary step you will take to protect ethics and data privacy? You decided to run a study, you decided to collect data and you also have what analytics to be performed on the data. Before collecting the study what steps you will take to protect the learners' data privacy also to follow the ethics?


Write down your answer you can pause this video and resume the video after you complete writing the answer.

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Activity

Ethics and Data Privacy

- The data privacy and ethics primarily includes
 - Obtaining consent forms
 - Anonymizing the data
 - Classifying the data
 - Storage



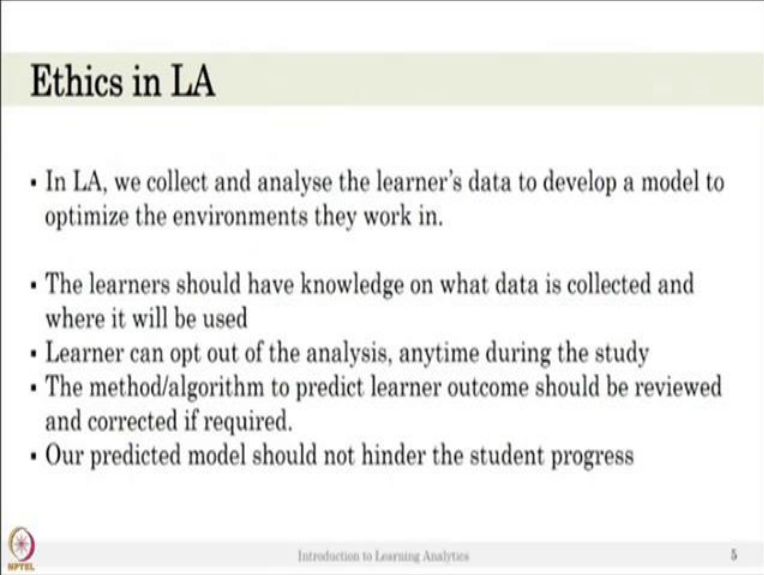
Introduction to Learning Analytics 4

Ethics and data privacy is a important topic in any data collection method. In general data privacy and ethics primarily includes these four topics that is you should obtain the consent form

from the participant. If you are collecting data from a learner, you need to get the consent that they are ready to give the data share the data with you. Also if the participant is minor that is below 18-year-old, you should get the consent form from their parents. When you report the data you have to anonymize the data you have to hide out what is the user name, user information or the IP address you have to anonymize these data.


This is very important when you report this data to the public. Also you have to classify the data such as which data can be anonymized, which data cannot be anonymized. When I said anonymized you might be wondering for facial expressions you are collecting their facial expressions using web camera that is a video. How can you anonymize the face? If you anonymize the face you cannot collect any information from that. So, you have to classify the data such that this set of data can be anonymized, this set are cannot be anonymized after certain period of time the data should be destructed or removed or deleted. Also it talks about storage where you like to store the data or you like to store the data in the cloud or in a physical hard drive, in a laptop or is the data secured, is data is not accessible to anyone who is not allowed to see the data the storage of data is also important you cannot carry this data simply without any protection.

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Ethics in LA

- In LA, we collect and analyse the learner's data to develop a model to optimize the environments they work in.
- The learners should have knowledge on what data is collected and where it will be used
- Learner can opt out of the analysis, anytime during the study
- The method/algorithm to predict learner outcome should be reviewed and corrected if required.
- Our predicted model should not hinder the student progress

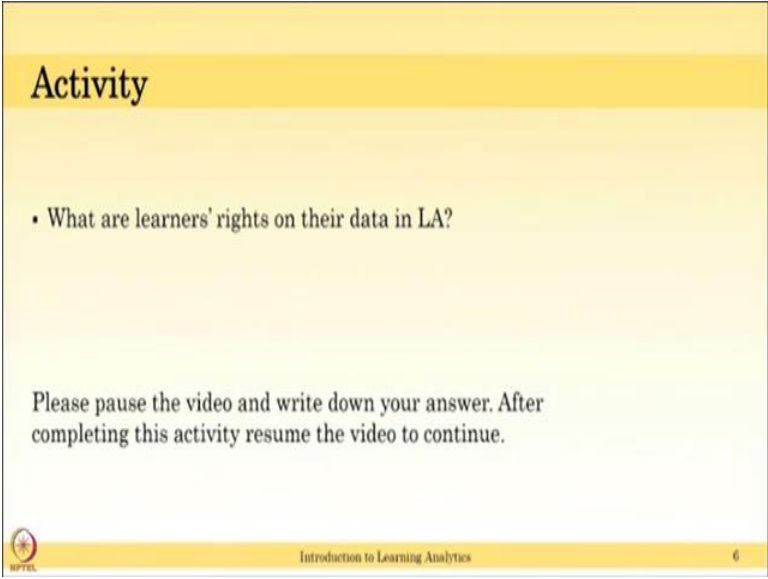
 Introduction to Learning Analytics 5

In learning analytics, we collect an analyst learner's data to develop a model. So, the purpose of collecting data is to develop a model so, that we can help the student to achieve success in the environment they are working in. If it is a TELE environment, we collect the student's information such as their problem solving behavior, the time they spent on watching videos all this information then we create a model so, that we can provide a correct hint or feedback to the learner to help them achieve their task. However, the learner should have a knowledge on what data is collected its it is not that asking learner hey you like to collect your data no it is not that it is more than that.

We need to ask student hey you want to collect your behavior data, your click stream data or your eye tracking data, your facial expressions, your videos recorded, your audio, your voice is recorded everything should be informed to the learner. So, learners should have knowledge of what data is collected and should give a consent to it. Second the learner can opt out of the analysis, during the study if the learner does not want to that data to be collected they can say I want to opt out of the study. And immediately you have to delete, erase all the data you collected about the learner and the method or algorithm you develop to predict the learner outcome should be reviewed by the human or the learner himself or herself and corrected if needed. And most importantly our predicted model should not hinder the student's progress.

The predicted model should not say that a you are not able to learn this skill whereas, the student might be learning the skill and when he see is the motivation, the feedback which says you are not learning the skill, the students motivation might go down. So, the predicted model should not endure the student's progress. We have to remember these ethics and privacy in data collection before we collect the data in any environment.

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The slide is titled "Activity" in a bold, black font. Below the title, there is a bullet point asking "What are learners' rights on their data in LA?". At the bottom of the slide, there is a text box that says "Please pause the video and write down your answer. After completing this activity resume the video to continue." The slide has a yellow header and footer. The footer contains the NPTEL logo, the text "Introduction to Learning Analytics", and the number "6".

Activity

- What are learners' rights on their data in LA?

Please pause the video and write down your answer. After completing this activity resume the video to continue.

 Introduction to Learning Analytics 6

What are the learner's rights on their data in learning analytics? We saw that learner's data learners should be informed what data to be collected, but what are their rights learner's rights on their data in learning analytics. Please pause the video and write down your answer after completing this activity resume the video to continue.

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Activity

Learner's Rights

- What are learners' rights on their data in LA?
- Learner can opt out process anytime during the study
- They should have access to their data
- Learners should be allowed to be part our algorithm
 - Accept/Reject the feedback provided



The learner have a right to opt out of the process any time during the study and they can ask you to erase the data completely that is during the study. And also they should have access to their data if they want I want to look at my eye tracking data, I want to look at my behavior data they should have access to their data.

Most importantly learners should be allowed to be part of our algorithm. For example, if you give the feedback you should not force the feedback on the learner. Learner should have a choice to accept or reject the feedback. The feedback we generated is based on what your model predicted about learner. It is not correct; you have to give the learners a chance to accept or reject the feedback or any adaptation you are providing.

So, you might ask where does this ethics clearance or ethics consent form how it is created, how should be created? In a universities or colleges, they have the ethics committee. So, you have to approach your ethics committee, if not one you have to create ethics committee in your university or college and you have to get the permission from them and you have to follow the standard procedure to get the consent form. In an industry, each industry in education sector should have their own ethics committee and data privacy committee.