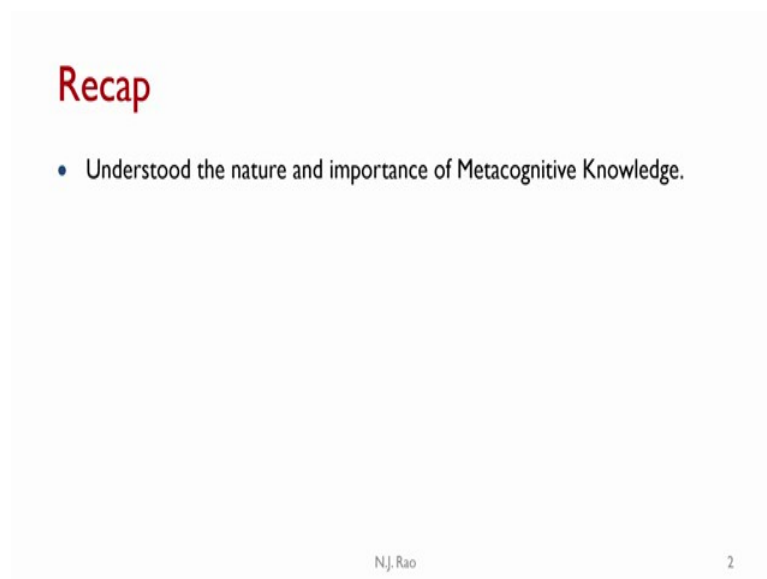


Teaching and Learning in General programs (TALG)
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Lecture – 12
Affective Domain

Greetings and welcome to unit 12 of module 1 on outcome based learning. The present unit is related to Affective Domain.

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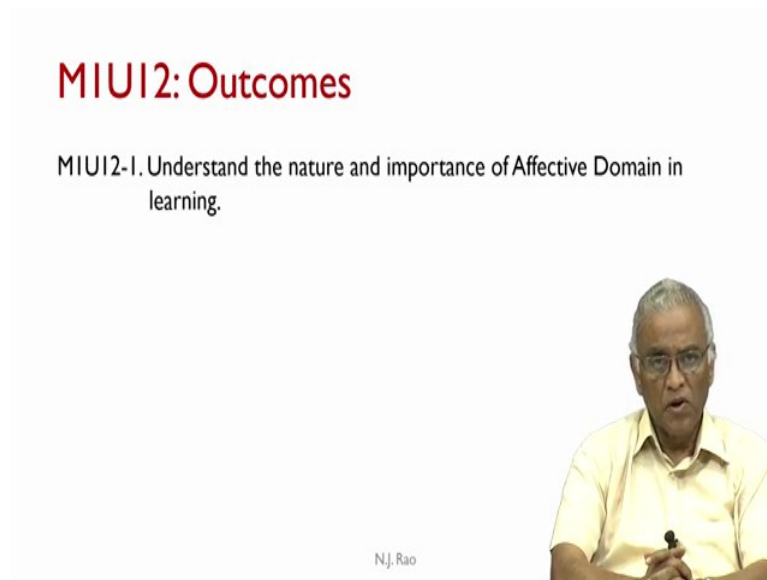
Recap

- Understood the nature and importance of Metacognitive Knowledge.

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In the earlier unit we addressed the issue of metacognitive knowledge and we looked at the nature and importance of it. Especially when you have students with relatively poor cognitive abilities the role of metacognitive knowledge greatly increases. If you do not pay attention to this dimension then the student performance can become very poor.

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Present unit is related to affective domain, we try to understand the nature and importance of affective domain in learning. What should be clear is that any type of activity that we are involved, whether meeting a person, walking on the road, trying to read a book or more importantly listening to something in the class room, there is always a feeling or an emotion involved in that.

We many times use words like 'we do not feel up to that' or sometimes we have a strong emotion associated with it, that like, like or dislike; with anything that when we are interacting with the outside world. So, having feelings and emotions is a natural process with all our interactions with the outside world and affective domain addresses this particular issue of feelings and emotions associated with our interaction with the outside world.

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Non-cognitive Factors

- Many researchers firmly believe that non-cognitive factors and skills are equally or even more important than cognitive aspects in educative processes.
- Grit, tenacity, curiosity, attitudes, self-concept, self-efficacy, anxiety coping strategies, motivation, perseverance, confidence are among those frequently referred to as non-cognitive factors.
- Many of these factors fall into the Affective Domain.

N.J.Rao

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Let us look at the factors that are strictly non-cognitive. Till now we have been looking at cognitive activities in terms of cognitive processes and knowledge. But if you look at some non-cognitive factors, all the researchers in this area firmly believe that non-cognitive factors and skills are equally or even more important than cognitive aspects in educative processes. Let us take an example, when the teacher starts a lecture and if the students for some reason are not even willing to pay attention leave alone subsequent ability to understand or not. For some reason he has a negative feeling about the whole thing he will not pay even attention. If he does not pay attention there is no possibility of him learning anything from that. So, this is strictly a feeling or a sometimes can be a strong emotion that itself can almost act as a gate to prevent even a small element of learning does not become possible if I am not willing to pay attention.

Attention is only one aspect, but there are whole lot of factors like grit, tenacity, curiosity, attitudes, self concept, self efficacy, anxiety coping strategies, motivation, perseverance, confidence, are among many of the frequently referred non-cognitive factors. All these words are used by different people to represent many things. These words like grit, tenacity, curiosity - they are not completely mutually excluding words, there can be overlapping in the area they are dealing with, but they are all non-cognitive factors and many of these factors fall into the affective domain and that is where it becomes very important. We call it affective conflict.

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Affective Conflict

- An individual growing in a dynamic, pluralistic, urban-industrial society encounters a fast changing set of circumstances.
- Young persons are confronted by a variety of experiences which were not part of pre-adult experience of elders.
- Adults may become confused as they attempt to reconcile their own past inconsistencies and contradictions. Such confusions are easily communicated to the younger generation.
- Such climate is not conducive to healthy psychological development.
- Affective education has a significant role to resolve this problem.

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Now, let us look at (not necessarily in the class room) an individual growing in a dynamic, pluralistic, urban-industrial society- that is what we have in India- It is dynamic, pluralistic and urban industrial society encounters a fast changing certain circumstances. Even a difference of few years and you start referring to your senior students as father or grandfather. Even 3 -4 years are making a lot of difference between the experiences people go through.

And what happen when young people are confronted by a variety of experiences which were not part of pre-adult experiences of elders? If you talk about parents and children there is a much bigger age gap. Parents, while they would like to take care of their children, have not gone through any of the experiences that the children are going through. Adults may become confused as they attempt to reconcile their own past inconsistencies and contradictions. Such confusions are easily communicated to the younger generation. When parents are confused; obviously, those confusions also get transferred to the children and such climate is not conducive to healthy psychological development.

For example, as a parent I may not even know how to handle the strong and all pervading influence of cell phone on youngsters. I may know that it is not healthy, but I do not know how to handle that. So, affective education plays a significant role to resolve this problem; that means, the conflicts that students go through in their life

because of the fast changing set of circumstances, create conflict within each individual and affective education, can in principle address this particular conflict, and help to resolve this problem; we cannot guarantee the solution, but at least it helps in resolving this problem.

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Affective Domain

- is most commonly associated with feelings and emotions
- is usually displayed in the form of positive or negative reaction to given events, objects, behaviours, policies or situations
- Affective behaviours are accompanied by varying degrees of feelings and reflect distinct “approach” or “avoidance” predispositions
- Person’s past experience in interacting with environment shapes the nature and scope of affective responses

(Pierce and Gray, 1981)

Affective domain per say, is most commonly associated with feelings and emotions, it is usually displayed in the form of positive or negative reaction to a given event, object, behavior, policy or situation. Our reactions are usually displayed in the form of either positive or negative reaction. First level is positive or negative and right now our knowledge of the brain from neuroscience clearly indicates that there is a sign associated with that which is either positive or negative and there appears to be the degree of positivity and degree of negativity also associated with that. How strong the reaction positive or negative, seems to happen right away whenever there is sensory input coming. That seems to be part of the making of the brain itself.

Our reaction can be to the events that we are becoming aware of, even through the newspapers or the TVs or any other information are happening in front of us or objects, behaviors, policies or situations. So, for anything and everything our first level reaction is either positive or negative and also there is a degree of strength associated with positive and negative reaction. This much has been established by neuroscience.

Affective behaviors are accompanied by varying degrees of feelings; one is positive and negative and there could be other feelings which reflect the distinct 'approach' or 'avoidance' of predispositions; like depending on our feelings either you approach certain event or an object or avoid it. You do not want to attend such and such a lecture or you do not like this subject, these are the types of things many people have.

Even a good student may not have equal liking for all subjects. There are nothing like good or bad subject. All subjects are equally good or equally important, but still students do have this positive and negative feeling about subjects which is within the student and not with the subject. So, if I do not like the subject I do not want to spend time on that or I try to minimize my involvement with that.


A person's past experience in interacting with environment, shapes the nature and scope of affective responses; obviously, we are what we are depending on our genetic makeup as well as the experiences that we have been going through since our birth. So, to that extent our affective responses will differ from individual to individual. This is one type of description of affective domain as per 'Pierce and Gray'.

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Affective Domain

- An "affect" is any type, or degree of positive or negative feeling toward environmental circumstances, expressed by means of observable display of emotive, reactive, or evaluative behaviour.
- **Attitudes** are largely unexamined inclinations or dispositions for or against particular objects, ideas or actions. They serve as general feeling indicators that usually influence behaviour.
- **Values** are tested dispositional insights for or against particular objects, ideas or actions. When some one values something, he/she assigns worth to it with reference to goals and purposes. Values (enjoying, conserving, respecting, supporting etc.) serve as specific guides for consistent behaviour.

N.J. Rao



There are few words that one has to be familiar with. We called it affective domain. So, what is an affect? It is any type or degree of positive or negative feeling toward environmental circumstances expressed by means of observable display of emotive, reactive or evaluative behaviour. The teacher can observe the affect through the kind of

emotion, reaction or evaluative behavior displayed by the students. Affect itself is any type or degree of positive or negative feeling.

There are two words which I am sure everybody uses, sometimes knowingly or not fully knowingly- attitude and value. Attitudes are largely unexamined inclinations or dispositions for or against particular objects, ideas or actions. They serve as general feeling indicators that usually influence behaviour. So, everybody has attitudes. attitudes need not be taken in very positive or negative way; it is essentially unexamined inclinations because one may not have energy or time or may not have enough time to examine each type of inclination or disposition. It is something that I have reacted to- I like or do not like and I behave accordingly based on that. Whereas, values, are tested dispositional insights for/or against particular objects, ideas and actions. That means, we have tested these insights and then we came to conclusions based on systematic exploration of something.

These things might have come through our training at home, in the schools and colleges or by our own explorations with people and circumstances. Value is something an individual considers important. Why do we consider it important? When someone values something he or she assigns worth to it with reference to goals and purposes. For example, goals of A and B can be quite different, what A values and what B values can be different. Thus, values can also be different between two different individuals.

Values for example; enjoying, conserving, respecting, supporting; (these are examples only) serve specific guides for consistent behaviour. I do not have to be cautious on being asked by some person all the time if I value something, it becomes my second nature. Respecting nature, respecting cleanliness are values, if I have somehow imbibed these, not necessarily as an attitude, but if I acquire it as a value it gets reflected in my behaviour in a consistent manner. These are the three words one should really understand to get to know more about affective domain.

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Taxonomy of Affective Domain

Activities in all the three domain involve

- Sensory inputs
- Mental processing
- Outputs

Pierce-Gray taxonomy recognizes this three-step process and classifies the Affective Domain in terms of increments in cognition

All activities in the three domains involve three stage processes; one is sensory input -it comes from any one of the five senses. The sensory inputs goes to the brain and it processes this information in various domains. As a consequence of that there is an output created. So, these are this is a three step process that whether it is cognitive affective or psychomotor - it happens. While there are several taxonomies of affective domains in the literature, Pierce and Gray - used this three step process of how brain functions as a basis for creating taxonomy.

We have six cognitive levels; likewise, in Pierce-Gray taxonomy of affective domain identifies six affective levels. The main difference between affective domain and cognitive domain is - of course, we are looking at the kind of affective processes that go through, but, we try to establish a correspondence between cognitive levels and affective levels. And another assumption is as we go up in the higher and higher affective levels there are higher and higher cognitive activity associated with that. This is an assumption made and at least till now this seems to hold good for many activities.

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Pierce-Gray Taxonomy of Affective Domain

1. Perceive <ul style="list-style-type: none">- Emotive Imprinting- Response Setting	4. Validate <ul style="list-style-type: none">- Examining Values- Accepting Values
2. React <ul style="list-style-type: none">- Emoting- Recognizing- Controlling	5. Affective Judge <ul style="list-style-type: none">- Establishing Value Criteria- Value Judging
3. Conform <ul style="list-style-type: none">- Artificial Attitude- Consistent Attitude- Rationalized Attitude	6. Affective Create <ul style="list-style-type: none">- Integrating Values- Inspirational Insight

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The Pierce-Gray taxonomy of affective domain identifies the six levels, like remember in cognitive domain, we have remember, understand apply and so on; here we talk about perceive, react, conform, validate, affective judge and affective create. For each level we are identifying two/three sub-processes as we have seen in the case of cognitive levels also under each category we had some sub-processes identified. In the same way there are sub-processes to understand each process a little more in detail. We will not go through the sub-process in great detail, but we would like you to note that there are sub-processes in each of the six affective levels.


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Affective Domain Outcomes (samples)

Perceive

- Listen to others' points of view on ethical issues in genetics and biotechnology

Action Verbs: ask, choose, describe, follow, give, hold, identify, locate, name, point to, select, sit, erect, reply, use



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Let us look at each one of these to a limited extent. The purpose of bringing the affective domain predominantly is to sensitize the teachers to the role of it. If one wants to really make use of this into your instructional methods, you have to spend a little more time than merely one unit of this course.

Perceive: If a student is not interested in listening to something because of some reasons, you are not even crossing the first level. Perceiving includes listening to others point of view. Take one example; ethical issues in genetics and biotechnology; (I am sure several biology courses will address this issue. We just use this as the platform for to understand various affective levels). First of all I may or may not have any view of the ethical issues, and if I am not even willing to listen, I cannot perceive. So, the first level is the willing to listen - listen to others point of view, not only willingness, but I am listening to others point of view. And you can use any of these action verbs; here we said listen, ask, choose, describe, follow, give, hold and so on. You will find that some of these action verbs will be common across multiple affective levels.

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Affective Domain Outcomes (samples) (2)

React

- Discusses the nature of his/her past and present reactions to the ethical issues in genetics and biotechnology
- Discusses with classmates whether or not he/she should continue to react in the same way to the ethical issues in genetics and biotechnology
- Assists teammates in resolving ethical issues in genetics and biotechnology

Action Verbs: answer, assist, aid, comply, conform, discuss, greet, help, label, perform, practice, present, read, recite, report, select, tell, write.

The second word is react, that is first thing is you are willing to listen and then if you are not only willing to listen but you're actually listening, then you are willing to react. Sometimes I listen to something, but I am not interested in pursuing it or doing anything further. Yes, I have listened to somebody, keep it; whether I remember or not, but that is where it ends. the next level to that is react. For example; if the student discusses the

nature of his or her past and present reactions to the ethical issues in genetics and biotechnology., it means he is willing to discuss what he thought about it and is not only willing to discuss but he actually discusses this. Another variant of this is, if a student discusses with classmates whether or not he or she should continue to react in the same way to the ethical issues in genetics and biotechnology and by this the student is going another step further; the student is willing to go one step further - he is asking/he is discussing whether he or she continue to react in the same way. Another level - one more step further is when the student is willing to assist team mates in resolving ethical issues in genetics and biotechnology. This is just another incremental step forward. In the sense you are not saying this is the way it has to be behaved and anything else is nonsense; obviously; you can not assist others in resolving ethical issues in genetics and biotechnology. So, there are three levels of reaction in this and some of the action verbs are common answer, assist, aid, comply, confirm, discuss, greet and so on.

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Affective Domain Outcomes (samples) (3)

Conform

- Justify the position he/she has taken regarding the use of genetic experimentation from an ethical point of view
- Display commitment to using ethical standards when resolving ethical problems in genetics and biotechnology

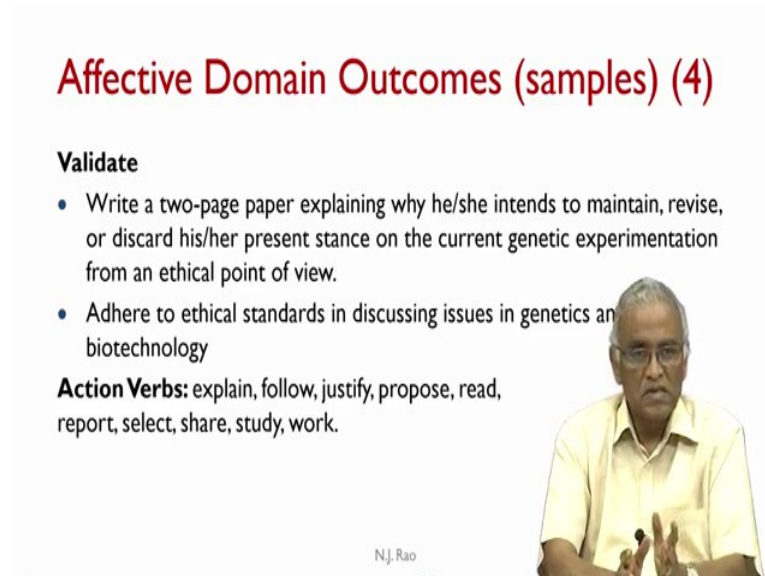
Action Verbs: complete, demonstrate, differentiate, explain, follow, form, initiate, invite, join, justify, propose, read, report, select, share, study, work.

The third level is “conform”, you are going one step forward; justify the position he or she has taken regarding the use of genetic experimentation from an ethical point of view.

Earlier you were willing to share and discuss. Going further we are trying to justify why the particular position is appropriate from an ethical point of view. And further another incremental level is to display commitment to using ethical standards when resolving ethical problems in genetics and biotechnology. You are displaying commitment to

using; that means, whatever that I do in the laboratory or whatever kind of problems I am trying to address; I am displaying commitment to using those ethical standards and conforming to the ethical standards that are presently in practice. So, here are some action verbs complete, demonstrate, differentiate, explain, follow, form, initiate and so on.

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Affective Domain Outcomes (samples) (4)

Validate

- Write a two-page paper explaining why he/she intends to maintain, revise, or discard his/her present stance on the current genetic experimentation from an ethical point of view.
- Adhere to ethical standards in discussing issues in genetics and biotechnology

Action Verbs: explain, follow, justify, propose, read, report, select, share, study, work.

N.J. Rao

The slide features a video inset of N.J. Rao, a man with glasses wearing a light-colored shirt, speaking and gesturing with his hands.

Coming to validate: I may follow certain standard because it has to be followed, but I am not fully convinced of all the provisions in that ethical standard. In the next level you write a two page paper explaining why you intend to maintain, revise or discard your present stands on the current genetic experimentation from an ethical point of view. If either one is willing to maintain this current standard or revise or discard and you are providing reasons for it; that means, you are explaining in great detail based on the data or assumptions that we make; then you are going through the process of validation.

Another activity related to this is adhering to ethical standards and discussing issues related to genetic and biotechnology. That means you are willing to adhere to the ethical standards; when you are discussing, you have now taken a position with respect to ethical standards, defending it and arguing within that context. These are some action verbs: explain, follow, justify, propose, read, report, etc.


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Affective Domain Outcomes (samples) (5)

Affective Judge

- Given multiple stands taken on ethical issues on genetics and biotechnology by different groups, develop criteria based on which one can judge the ethical issues.

Action Verbs: adhere, alter, arrange, combine, develop, complete, defend, explain, formulate, generalize, identify, integrate, modify.



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The affective judge: different people take different stands; especially regarding the ethical issues in biotechnology. The animal lovers, there is a society which protects animal rights, the scientists who actually do the experiments in biology and may be public; all may have different views on it; people implicitly or explicitly have taken multiple stands on this ethical issues. Given the multiple stands taken on ethical issues on genetics and biotechnology by different groups, how do you even want to compare them?, how do you take a stand?; that means, you are developing some criteria based on which one can judge the ethical issues.

Judging first involves identifying criteria and applying those criteria. As you can see now the language it starts becoming very similar to that of evaluate process of cognitive domain. You have to develop criteria and have to be willing to apply those criteria; which are the two activities involved in affective judge. The action verbs are adhere, alter, arrange, combine, develop, complete, defend and so on. Mind you, the statement that is given is only an example it is not all. So, one can use any of these action verbs to write an activity related to affective judge with respect to a specific course. Here we are using a biology program as the basis for creating these examples.


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Affective Domain Outcomes (samples) (6)

Affective Create

- Prepare a report that attempts to present his/her own ethical standard on genetics and biotechnology supported by the assumptions made and data collected.

Action Verbs: act, create, influence, modify, perform, propose, persuade, solve, support.



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The next level is affective create; it practically coincides with that of cognitive create. Prepare a report that attempts to present his or her own ethical standard on genetics and biotechnology supported by the assumptions made on data collected; I am now going to the highest stage of creating and proposing an ethical standard. It is not arbitrary, but is based on some assumptions on the data that is available. Action verbs are act, create, influence, modify, and perform and so on. These are the six affective levels of the affective domain.

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Affective Goals

Behavioural Goals are attitudes and values related to rights, feelings, and property of others including the fellow students, teacher and the institution.

Procedural Goals are attitudes and values concerned mainly with demonstrating respect for critical thinking, objectivity, evidence and logical analysis.

Substantive Goals are attitudes and values related to economic, social, political, ethical and aesthetic questions and issues of importance to a pluralistic society.

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Goals: In the case of a cognitive domain we had cognitive processes and knowledge categories; similarly, here we have affective goals and affective levels. These goals are behavioral goals, procedural goals or substantive goals.

Behavioral goals are attitudes and values related to rights, feelings and property of others including the fellow students, teacher and the institutions. In this you are talking about behavioral goals, attitudes and values. What attitude do you have towards your teacher? What attitude you have towards your students or what is that you value when interacting with the teacher; these are behavioral goals.

Procedural goals are attitudes and values concerned mainly with demonstrating, like respect for critical thinking. Critical thinking is a procedure or objective thinking is a procedure, logical analysis is a procedure. So, it is your attitudes and values concerned mainly with demonstrating respect for a critical thinking, objectivity, evidence and logical analysis. For example: How serious are you with respect to evidence? If somebody says this is the evidence and if you do not have that procedural goal, you may just discard saying I do not care about the evidence you have; which means, you do not have the right kind of attitude or value towards evidence.

Substantive goals are attitudes and values related to bigger issues like economic, social, political, ethical and aesthetic questions and issues of importance to a pluralistic society. Do you respect ethical values of a group in a society whose ethical value is different from that of somebody else? Especially in a pluralistic society like ours in India, do you have values related to economic, social, political and you can even say environmental, ethical and aesthetic questions.

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What role should the teacher take?


Should the teacher

- Try to avoid controversy?
- Try to be the impartial (and neutral) observer?
- Try to instil in students acceptable values?

Suggestion

The role of “defensible partisanship” is appropriate for teachers in a culturally pluralistic and democratically oriented society.

Teacher's attitude should be that values are not taught but they are critically examined.



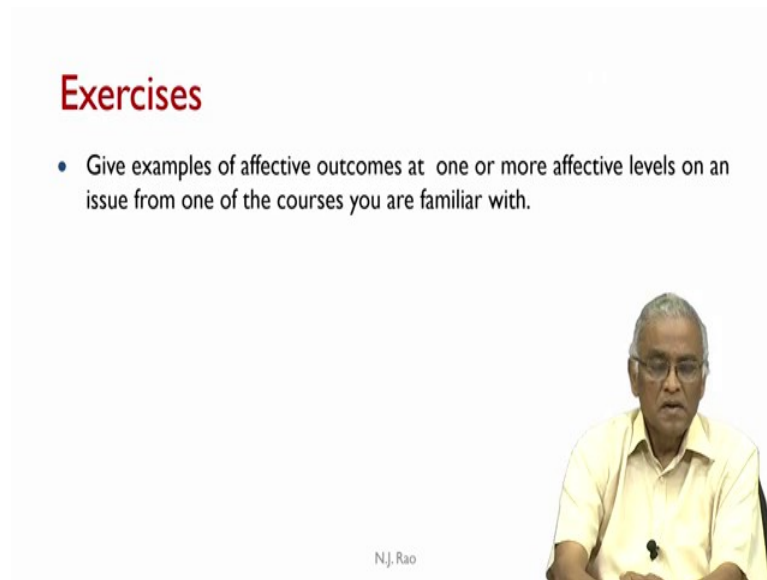
N.J. Rao

What is the role of a teacher in this context? Now as you can see all the time you we are using the words attitudes and values. Should the teachers nearly say you have your value or attitude and I have mine? Obviously, two individuals will have different values and attitudes. So, what should the teacher do? One way is to try to avoid the controversy. Do not go into a question that involves controversy; like, difference between two different attitudes or two different values. Or try to be impartial or neutral; I am an observer and I am not going to express my view. The other way is try to instill in students acceptable values. Acceptable to whom; Acceptable to me or what the general public says. Now, the other one is there are the things that are considered important; so, I try to instill those values in my students. It can be any one of these: be impartial, avoid controversy or instill a set of values acceptable. It may be acceptable to you, but it may not be acceptable to students coming from a different social background.

The suggestion to the teacher (it is only a suggestion) the teacher should take the role of a defensible partisanship; which is appropriate for teachers in a culturally pluralistic and democratically oriented society. What is defensible partisanship? As a teacher I explain my reasons and I take a position, but it does not mean that I want everyone to take the same position because of me. If you accept my reasons you may take this position, but not necessarily the same. The students come from different types of religions, community, social backgrounds and so on.

So, teacher's attitude should be that the values are not taught, but they are critically examined. A teacher's role is only to facilitate critical examinations of values, but not taking a particular position; but I take my position and I defend it and present it as my position that is it. So, that is a recommended role for the teacher.

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Exercises

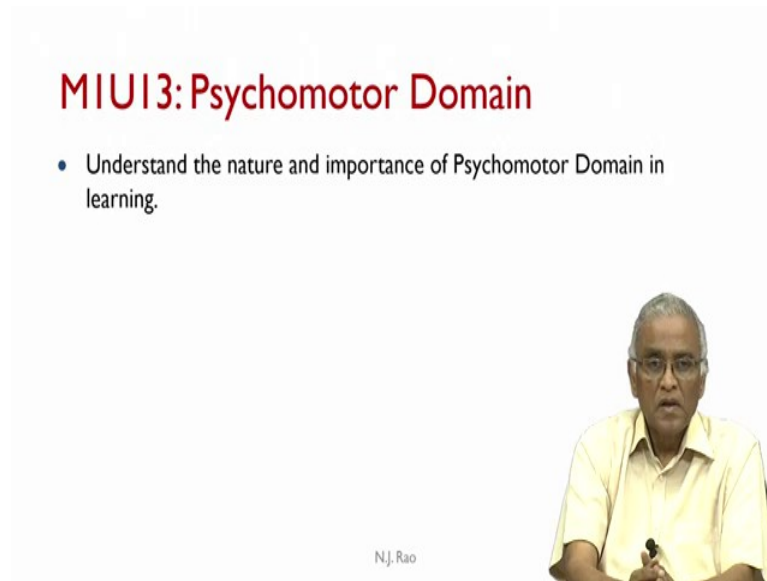
- Give examples of affective outcomes at one or more affective levels on an issue from one of the courses you are familiar with.

N.J. Rao

The slide features a video inset of a man with grey hair and glasses, wearing a light yellow shirt, speaking. The name 'N.J. Rao' is printed below the video inset.

As a practice: give examples of affective outcomes at one or more affective levels on an issue from one of the courses we are familiar with. In some courses you may or may not be able to address all the affective levels, but depending on the course give some examples of affective outcomes at one or more affective levels.

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MIUI3: Psychomotor Domain

- Understand the nature and importance of Psychomotor Domain in learning.

N.J. Rao

The slide features a video inset of a man with grey hair and glasses, wearing a light yellow shirt, speaking. The text 'N.J. Rao' is visible below the video inset.

And in the next unit, we will attempt to understand the nature and importance of psychomotor domain in learning that is a third domain of Blooms taxonomy.

Thank you very much for your attention.