

# Midsem

## Answer-1

Have you ever wondered how 40,000 thoughts, daily, cross the human mind?

The language plays an important role here . It gives our shaped ideas as a medium to reach other people. When we speak one sentence , we can link to another and that sentence to another , we can guess where it's heading :p,

Now we can feel how so many thoughts pass through the human mind daily! According to a study conducted by Hurlburt (1990, 1993), more than half of our conscious waking life consists of internal speech.

Imagine having built a giant building without using any language ,  
Imagine anything without this whole science of algebra , which depends on number terminology , imagine greeting people with “I am heading north-north-west “ instead of “hello” , Imagine communicating something to your parents that happened two days ago without this language.

All these are the consequences of language we face daily , but we obviously take it for granted :p.

**Language Profoundly shapes the way we think and behave .**

**Language guides our reasoning .**

We currently have *7000 languages* on the face of this earth , many of them lack the counting system, direction sense , recursion abilities ,etc.

Without the use of number terminology, we will go back by hundred of years , there are many-many different cognitive functions which are way much influenced by language .

Let's give a task to a boy ,to take the same number of apples from the basket as he can see the number of fingers he has , this might seem like a very easy thing to do for anyone , right?

But think about those people like piraha , where the counting system doesn't exist , they will face a hard time doing this task , because they don't have any concept of numbers , but they have words like more or less in piraha language .

This is a concrete proof that languages give us the ability to reason , think and solve problems .

It seems like there are 7000 cognitive universes here, who have some having slight and some having a huge level of differences in their way of perceiving and handling out the things .

Russian people have two words for the blue colour , glueboy and siniy For light and dark blue respectively , while in english we have just one word for this .

This simple difference in our language makes russian speakers faster at the mental task of differentiating between colours than english speakers.

The **FLN** which is purely unique to humans , consists of conceptual intentional system and sensory motor system , with the help of both of these , humans have got this unique language , this is definitely one the most significant mental processes which influences many cognitive processes and thus affects human behaviour .

The **mirror neurons in the brain** , which gives humans this special ability to learn by **imitation** is priceless , *it is what makes our mind so flexible!*

To see that how language affect human behaviour , consider a scenario , when you are going to swim at the seashore , and someone tell you “ there is a 95% people came out alive after swimming here” , you would definitely agree and won't hesitate to take a dive in it , now what would have been your decision if someone would have told you that “ 5 out of every hundred people die after swimming here “ , now I can certainly say that almost all of us won't dive in there :p.

We can clearly see that exactly the same meaning when said differently has a different impact on our mind , they influence our behaviour !

When we practice or learn any new skill , language for this matter . We form **new neural chunks** of that task in our mind , as we practice that new skill more and more , we **strengthen** those neural chunks , and

form even bigger chunks , which becomes **embedded in our brain** after sometime , those chunks **not only** help us in that specific task , i.e, forming languages , but also in many other task , which uses those neural chunks to do many other complex task or learn new skill.

The brain has this unique property of **neurogenesis and neuroplasticity** , which have been discovered recently , from the research conducted on infants , it has been clearly found that , learning new languages , makes **new neural connections** in their brain , which help them in comprehending the speech and making new utterances .

When the infant is of **less than one year** he can differentiate between , different languages , without even being heard any of them before , But after one year of age , the infant loses this ability to differentiate between the different Languages , because their neural connection which they practice more becomes more pronounced and the other connections just vanish with time as they are not being used.

Another example , Is bilingual people , they have been shown to have **higher levels of intelligence** than monolingual people , because of the facts that I stated above .

Their cognitive skills are more pronounced and well formed than other monolingual peers as they form more number of neural connections , its like they know how to play more than one instrument .

Language influences human behaviour in many different ways !

An example that will help us portray that how does this language affects our behaviour is

Imagine you are in your home with your childrens, someone told you "Someone in house is banging head"

What would you do , after listening to this?

Your brain will fire a tons of different signals to counter this situation , you will keep the children safe and then take take deep breaths , call the neighbours ,and so on .

We can clearly see how language affects human behaviorism.

**Marketers , data scientists , journalists** , these all people often use this property of human language to their advantage , they put the data having the same meaning in such a way which influences the human in the most desirable way .

The reason why companies like oneplus , apple , and Red bull spend millions and millions on marketing , is forgetting those loopholes in which people fall .

In Childhood , we have been told that we should not talk like that , we should do this , and all sorts of things , which makes us more presentable , humble , and **nice human beings**. **This** in fact is the significance of how language affects our behaviour to such an extent .

The grown up child is the result of the things which the child has heard while he was younger. Language of the people surrounding him shaped his personality .

A situation when told in different ways , gives different meanings to us . It greatly affects our behaviour .

*We can express and read emotions which in turn will shape our following actions.*

german speakers take sun as male and the moon as female , and spanish take them to be the other way round .

This difference in this property of their languages affects them psychologically , when they describe Moon , **German uses masculine** words like power ,strong , while **Spanish people use more female** words for describing the moon like beautiful , charming ,etc, Their languages clearly is affecting their behaviour.

Consider this event ,

In english we would say that “ he broke the vase “

While in languages like spanish ,we would say “ the vase broke “

*The speakers of the different languages usually think in terms of the things which their language require them to do.*

English speakers will remember who did it , while spanish speakers , would more likely remember what happened in the accident.

They both witnessed the same thing but , remembered different things , this is the **effect of language on their cognitive abilities and behaviour**.

We would, by our nature , **punish someone more** if we hear that “ he broke it “ as opposed to when someone said “it broke “ .

This clearly states the significance of language in affecting human behaviour.

I have talked a lot about how the language affects our thoughts and thus our cognitive abilities in the second answer too .

There is a african tribe , who view time because of their language , as flowing from east to west , they have a completely different perspective.

To conclude ,

Language can have Big effect , some people from different languages see time and space in completely different ways .

Language can have a deep effect , having numbers in language , opens another universe of mathematics and cognitive realm.

Language can have early effects , in case of colours and even in them language is getting in them and influencing the thousands of decisions we make daily.

Language can have a broad effect , languages can direct us to think about a certain thing in a certain way , like in this case gender , gender can change the whole noun we use , thus affecting our emotions towards that thing.

Language can shape things which have great weight to ourselves , ideas like I discussed above of vase one, here we give punishment when we hear a certain sentence in a different way.

The language **we** speak ,in some sense shapes the way **we** think!

This beautifully shows how flexible our mind is !

Language shapes our thoughts , cognitive abilities , and behaviours in unique ways !

The Language is **not** just a Tool , It is much more than that !

## Answer-2

Are language and thoughts dependent on each other ?

Do we speak first and then analyse or do you analyse first and then speak?

These are some interesting questions which I will try to answer.

What is a Thought exactly?

*Thought encompasses everything that a brain does. All neural processing in our brain.*

Daily ,at many times, we convert our thoughts into language .

*We can make all sorts of decisions , problem solving without using language , without putting them in words.*

We can make an infinite amount of language through our thoughts !

Great scientists like Faraday , Einstein when they first got the thoughts of their legendary theory , it was just in their mind, and after thinking and doing **many experiments in their mental labs** , they put it onto paper for the world to see.

Imagine having a huge complex device , made up of the latest cutting edge technology of AI and it could transfer our thoughts and feelings from ourselves to every human that we wanted it to transfer to , in a fraction of seconds .

Sounds cool ! Right ? Well , what if I say that we already have this ability , it is in our very vocal box, its proper usage with the help of FLB and FLN , is what makes our communication so smooth and easy to share .

Language is a very **small subset**, as compared to the thought , it acts as a **bridge** which helps us to connect with other people.

Language gives shapes to our thought which makes it presentable .

It helps in many neural ways , like I have discussed in answer 1.

This topic of what comes first , the language or thought is a topic of great discussion since ages . Many linguist have long debated on this , It's like a chicken-egg problem.

Different people have different hypotheses.

**Piaget** and **Vygotsky** , were great psychologists , who gave their hypothesis regarding language and thought .

Chomsky said that we have this innate LAD(Language acquisition device) , which helps us in acquiring language , and it is independent of any other cognitive functions.

I don't agree with this statement of Chomsky's as we now know that language is dependent on other cognitive functions too.

Bandura said that we learn by imitation , with the use of mirror neurons . I Think , that those same sets of neurons can also help us learn any other skill , thus affecting the neural connections of our brain and then our thoughts.

*I firmly believe that Thought comes before language.*

In early 1920 famous behaviorists , like J.B. Watson & B.F. Skinner confidently believed that “talking to oneself” and thinking are one of the same thing.

*I believe that Thinking is independent of Language .*

***Thinking seems to me the superset of language and many other cognitive processes .***

Language requires some amount of thinking , while learning it , but when its neural connections get rooted deep inside our brain , it becomes almost as smooth to use it without even thinking about anything .

Today , there is a lot of evidence collected which shows that Thinking and Language are separate but are linked abilities !

In 1947 , medical doctors paralysed the throat muscle of a healthy male , to check whether he could think or analyse without talking , and as expected , he could easily do so .

A better topic to debate on would be “talking to oneself without the movement of muscles is equivalent to thinking”

To nullify this argument , I can give a concrete proof that , in the ancient times , when no language was developed , the human still use to think and do many work , which require a great deal of intelligence , without saying or uttering a single language word , they would communicate through gestures , though at that time , the human brain was not this developed , but they could think and paint( which requires thinking ) ,



later when the language would have developed , it has given us ,another tool to present our thoughts in a more shaped manner .

Kanzi , the chimpanzee ,was seen crying for his cat. This example shows that , though she doesn't have a language , she can still understand emotions , solve basic puzzles and a lot of other things , which human children do.

There are many examples , where humans have lost their ability to speak , but could easily comprehend complex language and be able to think. For example , there was this Brother John , who had trouble in speaking and understanding written language due to periodic failures due to epileptic seizures (Lecours & Joannette, 1980).

It was seen that though he was unable to form sentences , but he could still think Clearly.

He was able to do other basic tasks which require average cognitive abilities and thought processes just like he would before the arrival of epileptic seizures .

Further , he also reported that he remembers those events clearly , which happened while he was under the effect of this seizure , and he would easily explain them in detail , afterwards.

He said "I could think clearly within my inner self but, when it came to [silently] talking to myself, I experienced difficulty finding my words" (Lecours & Joannette, 1980).

From these accounts it is clear that thought doesn't depend on language.

Now , to see , whether language requires thinking or not , there are many examples

William's syndrome is a severe mental disorder which results in abnormal brain functioning , as well as mental retardation.

But these severe mental limitations do not affect the ability to use language .

A woman, suffering from Schizophrenia, who was scrambling to find her words while speaking , but **she could think** !There are many other examples ,

A woman who was unable to do even very basic arithmetic calculations ,but was easily able to use language.

From the above examples , it is clear that there is no need to have language to think clearly , and vice - versa.

It has been shown that it is a case of **double dissociation** , which implies that language and Thought are **independent** of each other .

Sapir - worf hypothesis , has already been made fun of by many linguists like Geofferey Pullum :p

The whole concept that language determines the way we think? Is a contradiction in itself , Linguistic determinism is not at all true , though I can say that different cultures can in some way determine the way we think as they shape our moral values and our upbringing. but that is a broader picture .

It has been clearly observed that people from all over the world , though speaking different languages , recognize the same basic emotions , as happiness , sadness , anger , and disgust .

Despite the fact that there are so many different languages on this earth, approx 7000 , the basic Language Acquisition device , which Chomsky talks about , is the same in all of us.

Even though people speak different languages , we perceive colour and many other things in similar ways !

These two processes interact with each other so much , that it's obviously hard to believe that they two are completely independent of each other.

*Though I believe that language doesn't determine thoughts , that is , linguistic determinism is completely false .*

*We can have all sorts of thoughts and experiences without even language , one example would be of a girl , who did a lot of drugs , and when she talked about it , she wasn't able to form words to describe it , as at the time of drugs , she was just in that moment and in that feeling and effect of that drug.*

We can view the **whole world in image form** , example - how do we read maps .

There are many skills which we gain by doing them , and it's very difficult to describe them in words. It's all pre - verbal.  
We do have this internal speech - where we speak to ourselves , which forms any words , just using images and experiences .

But , Language does affect our thoughts in some manner , which I have explained in **my 1st answer** while answering the question that how does the human language affect human behaviour , i.e, **the linguistic relativism seems more appropriate than linguistic determinism.**

Language is **not** just a tool.

Speakers of one language process some task differently than the other language .

Language gives us the ability to have thoughts about the past and future , and suppose some things , which couldn't be possible without it .

In chinese , when we count , it is like eleven is one - one , twelve is one-two , and so on , so it makes it easier for chinese children to count , over the english childrens. *Language here does help in understanding things.*

Piraha is a contrast case in term of number terminology , in the book "Don't speak there are snakes" , Piraha quantifies objects as few or more , they can just compare . They don't have a sense of counting . This lack of number system , they can definitely perceive the quantity , but they cannot see the bigger picture , they cannot discretely count the number of items, their memory in that sense , will be compromised . They can compare between 2 birds and 10 birds , **but it will be hard for them to learn and remember exactly .**

Counting helps us in many different ways , so in a way piraha people lack a sense of perception due to their language.

Chinese people have a problem with dealing with statements involving a supposition , an implication , cause their language doesn't have this ability.

They will have difficulty in forming counterfactual sentence ,  
Bloom showed that while three-fourth of english speakers were comfortable with these types of sentences , only one-fourth of chinese were comfortable handling these types of sentences .

*This was because the english language uses that form , which helps english people in doing this task , while chinese language didn't have this form of language , so it makes reasoning easier for english speakers in this case.*

In answer 1 , I described various examples by which language affects our reasoning , cognitive processes and problem solving skills .  
Like in the case of goluboy and siniy study, allows russian to perceive different shades of blue in easily as they have different categories .  
This proves that **languages do play a role in enhancing this ability.**

I can definitely say , though language and Thought are independent , language doesn't completely affect the way we see this world , but it does give us some tools which makes our life easy or difficult in some cases .

In conclusion , I can say that the relationship between language and thoughts is really a complex one .

There are a lot of competing hypotheses regarding it , *Linguistic relativism seems the most appropriate to my observation and evidence that I have come across* .

Still there is a lot more to explore and learn in this relationship of language and thought , as the time will progress , I am sure we will see more proper and more accurate hypotheses , backed up by the scientific proof .

Thought is definitely the **larger superset** which encompasses many human cognitive functions and thus language just seems to be a **proper subset of it** . It does affect the way we see the world in some sense.

It does give us that magical superpower to communicate with other beings .

It is what makes our life so unique compared to other animals!

