

# **Fundamentals of language Acquisition**

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**Lecture 046**

Lec 46: Grice's rules, preverbal communication

Welcome back. We will start with Module 10 today. In Module 10, we will cover the communication strategies that children learn, how they learn, what some specifics of it are, what some theories of it are, and so on. So let us start. This will be our roadmap. Starting with the communication-related theory by Paul Grice, which outlines the rules of communication. Then we will talk about pre-verbal communication among children. And then follow it up with verbal communication, as we have seen already, for the children. We are talking about language acquisition from the prenatal stages. As a result, when they start to communicate, we will also look at it from the very beginning.

So even before they start to talk, even before they enter the verbal stage, we will look at the pre-verbal stage. So that is why there is a difference between pre-verbal communication and verbal communication. So, in lecture 2 onward, we will start with verbal communication. So, there we will talk about speech acts and then follow it up with other important paradigms like scalar implicature, the use of reference words, turn-taking, you know, many things like that. So, this is just a road map; this is just a pointer, but we might have some things here and there and some extra things as well.

So, this is the basic underlying structure that we will follow. So, communication by children has two primary stages: first, of course, there is the stage without words, which is infancy. The role of joint attention and understanding of the communicative intent of others will be primarily focused on here. So, how early children can understand the intent of others and how early they can make their own intentions understood by others are things that we will be looking at in the pre-verbal stage. And in doing all of this during this entire process, the role of joint attention is also very important, so we will talk about it.

However, joint attention has been studied in depth in one of the initial modules. So, we will not discuss what it is; we will just talk about how it has been used for communicative purposes by infants, as the studies point out. Then, we will look at the stage with language. So, with language, what is the child supposed to say? Choosing what to say, how do you communicate in a given scenario? So, that is the area that we will talk about in the language-related stage. So, speech acts, scalar implicators, as we have just talked about, many things like figurative language use and interpretation, and so on.

So, children, by now, now that we are in module 10, we have already seen that they have figured out the sound structure, the morphological patterns, the use of words, how they find out the meaning of words, and eventually syntax. So, basically, this is to say that the structural properties of the language by now are in place. Now, what will they do? Now they will communicate. So, they will communicate in the real world with their peers, adults, and so on. Now, the main question that we have here is, is it enough for a child to know the grammatical rules in order to be an able communicator in his or her language? Because, as we just saw, they already have the structure in place, in the sense of sounds, morphology, words, syntax, and so on.

Is that enough? That is actually not the case. So, we know that language is also a tool for communication. One of the main purposes of language is to communicate, and that communication happens within a social scenario. So, it is situated within a particular backdrop where language has to be used. So, language is not just a system of grammatical rules; it is also a tool that humans use to explore the social world.

We need to use this tool to explore our world. Not only to conform but also to debate or argue to find new ways of life, and so on and so forth. So, basically, the overall idea of exploring your social world needs language as an important tool. So we use language for all of these purposes. To create, develop, and sustain social relationships.

So this is what we mean by exploring the social world. So in any social setup language helps us to communicate in a culturally appropriate way. Now this is very important because language, as I just said, is a social tool. But that does not mean that the kind of language structure that is allowed for a particular society will be applicable to all societies, you know; anywhere in the world, that is not how it really works. So culture-specific patterns of using language are also another important thing that the child has to master.

So this takes us to the domain of what is called pragmatics and communicative competence. So, pragmatics is the meaning in a given context. So, the sentence might

mean that, structurally speaking, it might have semantics, but that semantics in a context is what we call pragmatics. So, making sense in context is the main thing. So, making sense in context is the key to successful communication in any kind of social setup and any kind of cultural setup.

So, for children's pragmatic development, the required skills include the successful use of contextually appropriate language; that is, the production has to be contextually appropriate, keeping in mind the grammatical aspects that must be present, of course, but also it has to be culturally appropriate and involve the ability to effectively understand the utterance through multiple social contexts. So, not only do they have to use it, but they also have to effectively understand it. So, in the same sentence, you can have a very simple sentence like "I like tea." So, it can be a simple sentence that means exactly what it states: the person talking about it has a fondness for the beverage called tea, which is a common beverage in India; that can be a simplistic understanding of it. But let us say somebody you know gives you coffee, and then you say, "I like tea," meaning, with a kind of intonation that signals disapproval, "Why did you give me coffee? Why did you offer me coffee? I like tea.

" Similarly, let us say that if you do not like tea, but somebody gives you tea, then you sarcastically say, "I like tea." So, this kind of thing, even a single simple sentence can mean different things in different contexts. So, that is where our second point becomes very important: it is that pragmatics or communicative competence is also about effectively understanding the utterance through various kinds of social contexts. Now this is easier said than done because, while semantics might remain unchanged, the same sentence structure might differ in pragmatics, as we have just seen. So this is the reason this is a very subtle skill that the child needs to develop over a period of time; they do develop it, but because this is such a subtle thing and it is a slightly complicated kind of skill, that is why this takes a little bit longer than understanding or knowing the grammar of a language.

Now, there are other things within this as well. So, to complicate matters further, the pragmatic abilities also include the interpretation of utterances in a nonliteral way. For example, the figurative use of language is important. Figurative uses, for example, metaphor, metonymy, and so on, are called figurative uses of language. Now, this is not only restricted to the domain of literature or, you know, high-end writing, but also to day-to-day life.

We do use a lot of metaphors in day-to-day life, which is also a very productive way of communicating. You can say a lot by using a metaphor in a simple situation as well. The child has to learn that as well. So, our communicative competence not only deals with the understanding of simple sentences but also with non-literal ones; non-literal, as in what it does not mean, is whatever the literal meaning is not the implied meaning. So, all of these they have to learn.

So, that brings us to what communicative competence is. So, we understand this with an example, as I have already discussed an example. So, you invite your friend to go for a post-dinner chai, as we call it in India. So, the reply you get is, "Tea keeps me awake." Now, what is the meaning of this sentence? That will depend on who the person is, who the friend is, whether he or she likes tea or not, whether you are actually offering tea or not, and multiple things. So, this is where our communicative competence comes in. Similarly, that is the example of a teacher that you will find in many textbooks. So, these examples show that successful communication depends on the speaker's intended meaning, which means that situational awareness is an important factor in attaining communicative competence. So, situational awareness is necessary not only for different kinds of life situations but also in terms of speaking. When you are speaking, you need to be aware of the speaker's and the hearer's mindset.

So, if you are the speaker, you need to be alert as far as the hearer is concerned. So, what is the listener's mindset? How can you get your point across, or what is the intended meaning that you have? Similarly, when you are the listener, you also have to keep in mind the speaker's intended meaning. This is kind of a structure; not a structure is actually a process. So, this process is kind of slightly below the surface. You need to be aware of the other person's mental state at that point in time when the communication happens.

Thus, learning to communicate effectively through the nuances of situations is called communicative competence. The development of this skill is called developmental pragmatics, as we just said that pragmatics refers to meaning in context. So, when the understanding that competence is developing in a child is studied, it is called developmental pragmatics. So, the ability to communicate starts with pre-verbal infants and, of course, gradually moves to verbal communication, more verbal communication. Now, a little bit more on the pragmatic development; this refers to the child's ability to figure out that the meaning of an utterance can go beyond what is said.

Often that is the case, not for children maybe, but for adults it is always the case, so often the case. So, when the child is exposed to adult language or even to their peer group as they grow, they figure out that the meaning, the actual meaning, is more than what has been said, and to understand that additional part of the meaning, they need to be situationally aware. They need to be aware of the cultural norms of that society. They also need to understand that languages may have non-linear meanings. All of these things have to be in place.

So, that means that there is a difference between linguistically encoded and inferentially derived which is the pragmatic aspects of communicated meaning. So, there are two layers to the meaning that are linguistically encoded and the inference. So, you infer the meaning. So, if the teacher hands you the script and says "good work," and then you see you have actually gotten a bad mark, quite a bad grade, then you have to infer that the teacher was being sarcastic. So, that is what we mean by derived inferences.

So, the pragmatic meaning depends, on the one hand, on the speaker's intention, belief, and so on, which we discussed as the theory of mind in the main somewhere in the initial modules. And so theory of mind is when the speaker is saying something to me another person is speaking to me, that my understanding and the speaker's understanding might be different. So, that is what the theory of mind is. So, the speaker's intention, belief, plan, goal, and so on and so forth have to be kept in mind, which means you have to be aware of the theory of mind and situational meaning, which are dependent upon culturally sensitive values and concepts. So, basically, until now, what we have seen is that language can have two layers of meaning; sentences or utterances can have two layers of meaning: the linguistically encoded and the pragmatically derived, inferentially derived meaning.

Inferentially, linguistically coded meaning has no problem, but inference has a problem, a problem as in it is a complex process. It depends on two main factors: the speaker's intention and the cultural background. These are the main points so far. Broad timeline, while the basic skills in this, as we will see through examples from a number of studies, are present from the very beginning as well. Infants are actually much smarter than we thought they were. So, some of these abilities actually develop quite early. However, to master this, they sometimes take a long time, until adolescence or even beyond. So, the skill sharpens through experiences if the child needs to go through multiple contexts of using that particular utterance to understand how this works, because nobody really sits the child down and explains all of these things. It might happen if the parents are

linguists; but otherwise, it does not happen. In the normal world, it does not happen like that.

So, the child has to figure it out on his or her own. So, that is why, because it is dependent on real-life experience, it actually takes longer than understanding the grammatical part. So, in concrete terms, this means different types of experiences; by different types, we mean social and interpersonal levels, because they need to understand the different kinds. It is not only a situation, but it can also depend on the person, per se. So, somebody who is very well-versed in the complex use of a language might use it differently compared to somebody else.

There are multiple factors about the person in the conversation that also need to be taken into account. So, when we say experience, we mean both kinds of experience. So, the social setup requires a particular way of speaking for the person who is either a speaker or a hearer in the communicative context. So, in turn, this ability has implications for success in education, interpersonal relationships, and so on and so forth. Why is it important? Why is communicative competence important? Not only for being an able and good communicator, but this also helps you as there are positive correlations found in many studies that children who have higher communicative competence tend to do well in the education sector.

So, they may understand the lectures better and so on and so forth. And, of course, interpersonal relations are also important. Now, these are some domains that I have looked at. So, I just thought that although we will not discuss this in detail, I would familiarize you with the different kinds of angles through which this has been studied. So, in fields like developmental pragmatics, we have already talked about it. Socio-linguistics also includes child language acquisition; that is why we are discussing this. Language socialization, etc., are some of the domains that take communicative competence very seriously, and study it. So, the interaction leading to communicative competence is the fundamental factor here.

So, these are some of the domains. Now, what is our problem? Let us get to the problem statement. The critical question that we will be asking here is how children acquire pragmatic competence. What are the factors? How do they get there? Are they capable of inferring the intentions of others and responding accordingly? If so, how early and what are the major milestones in that? Then Grice's influential theory of pragmatics is an

important guide for us to get there. So we will discuss that, and we will see if children are able to reason about others' intentions following Grice. And of course, Grice's theory is a little old now, but the modern theories have also kind of adopted that, if not entirely.

So, early work on the development of pragmatic competence among children did not show very positive results because initially the older studies talked about children acquiring their pragmatic competence in a slightly mild, you know, not so positive way because they believed many studies actually showed that children are largely egocentric. They are not really worried about the other person's intentions. They seem to be very, you know, self-centered. They are bothered about their small world.

So, that is what they call egocentrism. They do not really worry about the intentions of other people. Now, this also had support from the findings on the theory of mind which we discussed before. So, we know that the theory of mind as a module develops around the time the child is 4 to 5 years old, not before that. So, it is only when the theory of mind is in place that we can safely say the child is aware of the mental state of others. So, there is the fact that people have different mental states; it is possible for the speaker's mental state not to match with the mental state of another person; all of these are part of the theory of mind.

So, it is quite understandable that by the time the theory of mind develops, the child slowly starts to understand the intentions of others, not before that. So, early studies provide some support for that. However, in recent times, we have seen through so many examples that we now look at these factors through experimental paradigms. Earlier, they were more of an observation. So, once the experimental studies came into the picture, we now have different kinds of results. Many of the research findings actually point to a heightened understanding, a fine-tuned ability of infants to understand the attributes of children that show they might actually be aware of the intentions of other people. So, anyway, we will look at all of them, but let us just quickly go through what the maxims of Grice are. These are called Grice's maxims. According to Grice, communication is a collaborative effort based on intention recognition. So, I need to take into account the other person's standpoint when I am talking to somebody.

So it is basically a kind of cooperation, a collaborative project, so to say. And this collaboration, why does he call it a collaboration? Because there are certain rules that both parties, the speaker and the hearer, need to follow. These rules are known in the literature as the Maxims of Grice. So, later models of pragmatics have also adopted many of these maxims, though there are some changes with respect to the specific aspects of the theory, but largely this is still understood to be valid. For instance, one of the later

theories that have been looked at that is also quite popular in literature is Sperber and Wilson's relevance theory, which is somewhat similar to this one.

So, the maxims are maxims of quantity and maxims of quality. Quantity basically refers to one's contribution, which should be as informative as necessary. So, do not make contributions more informative than necessary. You give only as much information as is required within that particular communicative context. That is the maxim of quantity.

Quality is about not saying what you believe to be false. So, do not say what you lack adequate evidence for. So, if you do not know for sure that what you are saying is true, then do not say it. So, not only should you, the information that you give should be adequate for that context. Similarly, if you are not sure about something being true, do not say it. Maxims of relation refer to being relevant, maxims of manner refer to avoiding obscurity of expression, avoiding ambiguity, being brief, and being orderly.

Now these are the maxims that apparently all communication systems need to follow because if you do not follow them, then communication will not happen. If you ask something and somebody replies with something else, then we have seen this in one of the cases where we discussed a particular disorder. So, this means that if you do not follow these maxims, then the communication will not be fruitful. So, successful communication needs to follow this rule and by violating them the speaker can induce a range of effects like deceit. So, when you lie, when you are trying to deceive somebody by saying something that you know for sure to be untrue, one of the results can be sarcasm, and another could be humor, and so on and so forth.

Thus, according to this theory, children must learn to follow the rules and also learn to identify when these are violated. So, keeping this in the backdrop, we now move to the pre-verbal stage of children. So, infants successfully communicate long before they have spoken their first word. In fact, some have said that first words are, in reality, an endpoint for infants, which emerges only after they have reached several fundamental milestones. So, when they start talking, when they reach the verbal stage, they have actually crossed many important milestones.

So, it is not something new. So, as a result, this stage, which is called the pre-verbal stage, is pure pragmatics because even though they are not using much language. Sometimes, they do very little depending on whether it is a case-by-case basis; it might vary, but largely they will not have the language in place properly. However, they can still get done whatever they want to accomplish. So, communication does take place in the absence of language, and that is why sometimes it is called pure pragmatics. At this

stage, children are able to detect eye contact, infant-directed speech, and contingency.

Eye contact is very important; this is also the domain that later becomes the domain of joint attention, both initiating and responding to joint attention. So, eye contact has been studied extensively, and it turns out to be a crucial feature of human communication because, even for adult communication, eye contact is very important, and a number of psychological studies have also examined this. So, for infants, it has been found that they prefer to look at faces that make eye contact with them and avoid those faces that are not making eye contact with them. So, this is proof that babies are born with the ability to detect socially and communicatively salient information.

So, this has been taken as proof. Child-directed speech, we have talked about it. So, we have seen the role that child-directed speech has in language development when we discussed nurture. So, across cultures, it is common to find special intonation patterns for when they talk to children, which is called motherese. Now, motherese children typically have a preference for motherese over adult-directed speech in the environment from the very beginning. So, by the time they are 5 months old, they can detect affective vocalization and react to it accordingly, as in the emotion that is present in the voice of motherese, whether it is the mother or the other primary caregiver.

So, if there is a positive effect in the voice, the children typically tend to react positively, such as with a smile. Similarly, with a negative affect, they have also been found to react negatively. So, such findings show that the child is able to understand the intentions of others. So, when somebody shows positive emotion, they actually understand it, and that is why they react the way they do. The third factor that has been looked at is called contingency. This basically refers to social behavior that is contingent upon one's actions. So, we are talking about the society when we talk, when we converse, when there is a communicative situation or a group of people communicating with each other; some things depend on how your own reaction happens. So, if whatever you say results in somebody replying, if you say x, there will be a reply to x; if you say y, there will be a reply to y, and so on. So, this is what is called a turn-taking pattern in a conversation setup. Now, infants when they are very, very, very young from the very beginning, they actually show very interesting pattern in this regard.

For example, they show a preference for contingent responses to rather random stimulation. So, if there is a conversation, a give and take, and a turn-taking situation, they tend to prefer to react to that rather than to some random stimulation. From birth to 9 months, this is the range in which they take part in interaction with caregivers. Now this interaction is pre-verbal because, by 9 months, they have not really started to speak. Now

this is why this happens: you must have noticed that anywhere there is a caregiver, there is this motherese that takes place between the caregiver and the child.

The caregiver tends to take every reaction of the child as a response in a conversation, regardless of whether the child thinks that way or not. Anything, even involuntary sounds like burps, smiles, sneezing, or yawning, the mother will respond to as if the child is using them as some kind of response in a communicative scenario. Now by doing this what happens this is an involuntary this happens automatically across cultures and across languages. Now, by doing this, what happens is that the caregiver provides a scaffolding of interaction. What does it mean? This means that the caregiver is creating, you know, some sort of likelihood of an actual interaction that is happening, and this is what the child eventually learns. So, if the child vocalizes a sound, the mother says, "Yes, I understand you; you need this, you want that, let us go to Granny's," and something like that. So, this is a pattern that caregivers automatically indulge in across languages. And that in turn tells a child how turn-taking happens.

So this is how conversations happen. So they eventually understand this. Because of this, this particular kind of structure of conversation is called proto-conversation. These are the beginnings of a conversation. This is how the child will eventually be able to indulge in a real conversation. This is not a real conversation. It is called proto because this is the older version, just like we have proto languages from where languages have emerged; the proto is the oldest form. Similarly, proto-conversation is the older form of a real conversation. So, this is called a dyadic pattern. Why is it a dyadic pattern? Because this involves only the caregiver and the child. This dyadic pattern creates the protoform of conversation. Now, as they grow older after 9 months of age, children move from dyadic conversation to triadic conversation.

So, triadic means that from now on, there is the child, the caregiver, and a third thing. It can be an object; it can be an event; it can be anything. So, now they are able to attend to a third thing, and there is a triangular kind of communication that happens involving a third object. So, at this stage, the child extends the interaction from the infant-caregiver dyad to external objects and situations. And this is where joint attention makes an entry because both the child and the mother, father, or whoever the primary caregiver is often need to attend to one particular object together, which means joint attention.

Let us say, for example, the child is playing with a toy and it flies off her hand. She looks at her mother, who points in the direction where it went. The child follows the

direction of the pointing finger. So, the ability of the child to follow the pointed finger of the mother to the toy is evidence of the child responding to joint attention. So, they look at each other, and that is how you convey that the toy has flown off, and then the mother points, and the child responds and figures out where it is. So, without using language, there has been successful communication between the child and her mother involving a third object.

This is what we mean by joint attention, and this is very, very crucial, as we have already seen in a different module. So joint attention develops over time, and between 9 and 12 months, they actively start to attract the adult attention needed for communication. Infants under 12 months are already attentive to positive and negative affect marked in the intonation, exaggerated intonation contours, and other attention-getting signals like pointing and gaze. Until 12 months or so, adults take an active part in managing joint attention, and by 18 months, infants are equal participants. So, basically, infants initially start by responding to joint attention; eventually, they initiate joint attention.

Now, understanding the speaker's intent is also important. So, this is an example of a 2-year-old boy and his father at the breakfast table. The boy is talking instead of eating; he is not eating. The father taps the edge of the bowl with a spoon. And the boy says, "Herb is hitting a bowl." Father: "Why was I hitting your bowl?" The boy is now grinning as he picks up his spoon, "eat cornflakes". So, the boy was not eating; the father taps the bowl, and the child understands the intention even though he has not said this in so many words. He simply had an action that the child understood. So, this is what we mean by understanding the speaker's intent. So, one-year-olds are already adept at understanding or construing situations. And as we have seen before, various other examples also. Pre-linguistic gestures are also very important in this domain during the pre-linguistic, pre-verbal stage. So, infants can express a number of intentions using gestures in the pre-linguistic stage, which is again almost universal. So, when they lift their hands, they basically mean "lift me up," with a big smile in response to an offer of something attractive: "I want it." vigorous arm waving in response to the same offer: "I do not want it". An open mouth: "feed me", etc. So, these are called pre-linguistic gestures, which are also present in the pre-verbal stage. Another is the pointing gesture. So, this is also important, and children tend to use this a lot before they have started to speak so much in many languages, using many words. So, pointing gestures emerge at around 11 months of age.

It is said that this serves three general communicative intentions. There are three communicative intentions that pointing gestures are said to encode. First is to share emotions and attitudes about the reference. So, a 12-month-old did not prolong pointing when an adult expressed disinterest. This is a study from Tomasello's group. So, what

they found out was that the child was pointing to an object, but when the adult present in the scenario was not showing any interest, he in fact showed disinterest.

"Uh, uhm, maybe, no", and then the child did not prolong the pointing behavior. But when he showed interest, "okay, cool, nice", then the child took it as positive reinforcement and kept pointing. So, they can use pointing as an indicator for showing emotions and attitudes to inform others of useful or interesting things. Sometimes, they can actually use this pointing gesture to inform the adults in the scenario. So, 12 months old, again Tomasello's group found that 12-month-old infants prolonged pointing to an object whose location the adult did not know, but the child did.

The thing was hidden, and when the adult was not in the scenario, the object was hidden. The child knew it; the adult did not. So he kept on pointing to it. Request help from others in attaining your goals. This is more common. Made the adult hand him the toy that he wants. So, these are the three primary domains in which the pointing gestures have been studied. To sum up to this point in the pre-verbal stage, there are three things that we have primarily discussed. In the pre-verbal stage, children possess and develop quite sophisticated pragmatic abilities. What are those pragmatic abilities? They use eye gaze and a repertoire of gestures for this purpose, and they can engage in acts of joint attention and referential communication with their caregiver.

So, this is in a nutshell what the pre-verbal stage of communication, as far as infants are concerned, leads to. So, this is where we end Lecture 1. Thank you.