ADAPTATION OF SINCLAIR'S IRF MODEL ON DOCTOR-PATIENT CONVERSATION: A CASE STUDY OF MEDICAL DISCOURSE IN PAKISTANI CONTEXT

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ABSTRACT

Present study is the adaptation of Sinclair and Coulthard's (1975) Birmingham model on medical discourse in Pakistani context. Birmingham model has been presented specifically for the study of the use of language in classroom between teacher and students. Sinclair suggests that this model can be applied to any such discourse in which the power-divide is obvious. By taking insight from this suggestion the Initiation – Response - Follow-up (IRF) model has been applied to the doctor – patient conversation. An adapted model of Inquiry – Response – Diagnosis for the said discourse has been suggested.

Keywords: IRF, Sinclair, Discourse Analysis, medical discourse.

INTRODUCTION

Sinclair and Coulthard presented their Birmingham school model (1975) to investigate the underlying structure in the teacher – student interaction in the classrooms. The insight was taken from Bellack's hierarchical structure (1966) for pedagogical discourse (Brown, 2011). In their system of analysis there are five ranks i.e. lesson, transaction, exchange, move and act.

Lesson is the top most rank which is equivalent to a lecture in pedagogical terms. It is made up of series of transactions. A transaction can be equated to a topic in the lesson. A transaction comprises upon the boundary and medial exchanges. The medial exchange is also termed as the teaching exchange. The principal transfer of information and the process of teaching and learning of the content is conducted in the medial or teaching exchanges.

Each transaction has a preliminary boundary exchange. Similarly, it can have a terminal boundary exchange by the end of the transaction. Hence, the structure of transaction can be PM(M2 . . . Mn) (T) (Sinclair & Coulthard, 1975). The formula shows that the preliminary boundary exchange and at least one medial exchange are compulsory. It also shows that there can be any number of medial exchanges and terminal boundary exchange.

The exchanges are made up of moves. There are two types of moves for boundary exchange. These are framing move and focusing move. Each boundary exchange can have either of two or both moves. Similarly there are three types of moves in medial or teaching exchange. These are initiation, response and follow-up moves. These are also termed as opening, answering and follow-up moves. Sinclair and Coulthard's major contribution (1975) is the identification of another underlying structure inside the moves. According to them, moves have another smaller rank of acts. They identified twenty-two types of acts. The structure of moves with the respective presence of acts has been given in the table 2.

Act is the lowest rank of discourse in the above discussed system of analysis. The identification of acts is purely through functional perspective. It is because the discoursal

studies can never be complete without the study of functional properties of any text. This model also confirms the presence of a complete structure in the spoken discourse as well. Before the establishment of this model, the spoken discourse was considered to be having a lack of structure (Cook, 2004). This model helped to dissolve this misconception. In their system of analysis Sinclair and Coulthard (1975) and then Cook (2004) suggested that this model can be applied to any such types of spoken discourse in which there are two parties involved in a way that one party is controlled by the other in the given social setting. Hence this model can be applied to pedagogical as well as to medical and legal discourse.

Participants in discourse have in common several kinds of knowledge. They may share a general background and specific knowledge about the particular language activity of a given discourse. The participants also share the information that develops in the discourse itself, the common ground or "context set" (Stalnaker 1978). As a discourse progresses, each new proposition is assessed. If it is accepted, the proposition is added to the context set. Thus each sentence as it is processed updates the context.

The Discourse Modes differ in the type of situation entities they introduce, and their principle of text progression. Dynamic Predicate Logic and Situation Semantic stake context as crucial for interpreting discourse. The classical approach of Grice (1975) makes a distinction between the semantic and pragmatic meanings of a sentence. Semantic meaning is conveyed by linguistic expressions, while pragmatic meaning adds what a speaker implicates and/or intends when uttering a sentence in a particular context. In discourse a special type of inference is observed accommodation inference that bridging the communication gap by presupposition and implicature. Text progression is due to changes in the metaphorical location of Primary Referents.

LITERATURE REVIEW

This Sinclair and Coulthard's (1975) model has been applied in many descending researches. Brown (2011) applies this model on the discourse of online instruction. He is of the view that in the online system of interaction and instruction the same moves and exchanges cannot be used. He took insight from Coulthard and Brazil (1979) amendment to the original model.

Similarly, Musumeci (1996) argues that the IRF model can be used only in that situation one person holds the authority. In the traditional classroom the question and answer routine has been considered to be the appropriate type of discourse. Musumeci (1996) gives another reason for the continued use of IRF: the system of power relations in a classroom means that the teacher has most of the floor, and this is due to the asymmetrical roles of teacher and pupils. This is certainly the case in the exchange structure model, as the teacher has two utterances to everyone from a pupil (Chaudron, 1988), but the idea of power relations in modern classrooms requires more discussion.

Despite the assertion that the framework can be used for varying levels of formality, exchange structure has been found unsuitable to describe nonformal, non-authoritarian contexts (Burton, 1981). Burton says that it relies on a 'polite consensus-collaborative model', where all parties are in agreement that time will be spent transferring information from teacher to pupils, and to this end the teacher controls the discourse.

Mehan (1979) showed that pupils learn over time to successfully initiate discourse in the classroom. He looked at discourse in a class for the period of a year and found that successful

pupil initiations became more frequent as time went on; 'successful' initiations not only being those which were not reprimanded, but where the pupil had the floor and affected the subsequent discourse topic. Pupils learned to time their initiations depending on what Mehan (1979) calls Topically Related Sets (TRS), that is, a group of exchanges connected by a topic.

Laferriere (2010) investigates the knowledge building discourse and using Sinclair's (1975) IRF model as the base and has adapted it according to the requirement to IRFI. At a micro level of analysis his research focuses on the kinds of questions students asked and their subsequent discourse/explanation. Results show a level of explanation in student discourse that contrast sharply with the IRE classroom discourse structure.

METHODOLOGY

In this research the principal aim has been to access the real-life data of language i.e. that language which has been used between doctor and patient. Hence, the conversations have been recorded. There are six recordings each of approximately 9 minutes. In the recordings, the local languages like Urdu and Punjabi has been used. There are just a few words from English language. So the collected data has been translated to English for wider readership. The translated data has been given in the Appendix I. Sinclair and Coulthard's pedagogical model (1975) has been applied to the collected data. During the process of manual tagging, the researcher felt the need to make some modifications in the model. Hence, the said model has been adapted according to the requirements of the discourse under scrutiny. The adapted model has been given in the next section of this paper. However, the adaptations are largely on the level of move and to some extent on the lowest level of act. The higher levels of exchange, transaction and lesson have not been traced.

RESULTS AND DISCUSSION

In our discourse there is a patterning of two types i.e. instruction - response move ends in confirmation and inquiry - response move ends in prescription and/or diagnosis move in our discourse that is typical to our primary referents doctor and patient. According to Birmingham School Model react act of move will occur as a response to a directive only but in our model there is directive as a response to assertive (Text6:M7). In our discourse at transactional level there are preliminary, medial and terminal structures. Both boundary exchanges are compulsory.

In our conversation of doctor and patients a wide diversity of moves has been observed. The structure of exchanges has been given in the table 1 and table 2 and that of moves in table 3.

Elements of structure	Structure	Classes of move
Frame (Fr)	Fr (Fo)	Framing
Focus (Fo)		Focusing

Table 1. Elements and Structure of Boundary Exchange

Elements of structure	Structure	Classes of move
Instruction (Ins)	Ins (R) (F)	Instruction
Inquiry (Inq)	Inq R (F)	Inquiry
Response (R)		Response
Follow-up (F)		Follow-up

Table 2. Elements and Structure of Medial Exchange

Elements of structure	Structure	Classes of Acts
FRAMING		
Head Qualifier	Hq	H: marker Q: silent stress
FOCUSING		
Signal (s) Pre-head (pre-h) Head (h) Post-head (post-h)	(s) (pre-h) h (post-h)	S: marker (m) Pre-h: starter (s) H:metastatement / conclusion (ms) (c) Post-h: comment (com)
INSTRUCTION		
Signal (s) Pre-head (pre-h) Head (h) Post-head (post-h)	(s) (pre-h) h (post-h)	S: marker (m) Pre-h: starter (s) H: directive or assertive (dir) (asr) Post-h: comment (com)
RESPONSE		
Pre-head (pre-h) Head (h) Post-head (post-h)	(pre-h) h (post-h)	Pre-h: acknowledge (ack) H: reply, react, acknowledge, confirmation (rep) (rea) (ack) (cnf) Post-h: comment (com)
INQUIRY		
Signal (s) Pre-head (pre-h) Head (h) Post-head (post-h)	(s) (pre-h) h (post-h)	S: marker (m) Pre-h: starter (s) H: elicitation, information, check (eli) (inf) (chk) Post-h: comment (com)
FOLLOW-UP		
Pre-head (pre-h) Head (h) Post-head (post-h)	(pre-h) h (post-h)	Pre-h: accept (acc) H: confirmation (cnf) diagnosis (dig) prescription (prs) Post-h: comment (com)

Table 3. Elements and Structure of Moves

Instantaneous events consist of a single stage, a point in principle; events with duration have endpoints, changes to and from a state of rest. Our analysis shows a chain of heads rather than pre and post head most of the time but not at the expense of losing cohesion for the propositions and concepts of a text. These relations are not necessarily made explicit in the text but are inferred by the receiver. It also involves telicity because this discourse has telic events because it has a goal or natural final endpoint. It develops a viewpoint that gives schema. Schema covers the whole situation and also provides the rationale for the diversity of moves. In the present data, i.e. doctor – patient discourse the post-post head besides post head have also been observed. (Text2, M23; Text4:M15; Text6:M25).

In this discourse there are two framing moves in preliminary boundary and terminal boundary as an act of greeting (Text2, Text3, Text4, and Text6). It links the linguistic formal units to the social norms of greeting. Likewise in this discourse a lengthy structure of focusing move has also been observed (Text3, Text2, and Text1) as a typical feature of our socio-cultural

context. Generally in Birmingham school Model in a discourse when two questions are asked simultaneously the first one becomes starter and it is not meant to be answered but in our discourse both questions were entertained with due respect.(text5,M3) In our discourse there is a reply in response to directive.(Text1:M7)

Lexical cohesion arises when patterns of related words appear in a text. This is perhaps the most interesting contribution of Halliday & Hasan. The notion of cohesion is semantic" and involves the interpretation of one element as depending on another, according to Halliday & Hasan (Cook, 2004). Lexical cohesion involves "reiteration" of a word, either actual repetition or words that are "systematically" related such as superordinates, synonyms, or near-synonyms (Yule, 1996; Cook, 2004). General nouns can function as cohesive agents, operating anaphorically as a kind of synonym (Cook, 2004). Cohesion across genres is studied by Stoddard (1991). Stoddard opined that there are definable cohesive networks in texts. In our discourse confirmation move gives lexicon cohesion to the discourse.(text1:M3,text2:M22,23;Text4:M4)

Sometimes there is no response or follow-up move after one opening move next opening starts. There is a sequence of post head, post, post head with different acts of moves (text 5). Mostly initiation and response moves are present in discourse while follow-up move is optional. It shows independent and parallel structures of elements of moves but common context does not allow losing the cohesion of the discourse. While observing co-operative principle there is a flouting of the maxim of quantity (text 5). Most of the time additional information is provided not only by the patient but doctor's side also.

There is a presence of facilitator (relative) along with the patient to participate actively in discourse. He participate sometimes in the place of patient not for the general information but sometimes personal information of the patient as well. (Text 4: M5, M6; Text5: move: 12, 13, 14, 16, 18). Overlapping is also a mark of this discourse most of the times present due to facilitator (Text: 5). But sometimes overlapping also shows the concern of the patient and the facilitator that inquiry and diagnosis are trespassing their boundary of moves. (.(text:6; move: 8) There is Digression at the expense of flouting of maxim of quantity in discourse(text:5;move:13). In our model there is embedding act in the instructional move to accelerate the progression of the discourse. (Text 1: M3, M11).

Conventional organizing principles include causal relations .Bound initiation enriching the details of the discourse and add coherence in it. Bound initiation occurs when information does not affect progression negatively, and when entities are not those of the current Discourse Mode.

IMPLICATIONS AND RECOMMENDATIONS

This adapted model can be taken as the hint of progression in the existing knowledge regarding the nature of language. It also confirms the presence of underlying structure of ranks and components on the level of discourse especially in the medical discourse. It also encourages the researchers to modify the prevailing models and adapt them according to the requirements of the discourse. Present study also confirms the resilient inter-linkage of social and linguistic norms.

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Appendix I
Translated data
Text 1:

D: ok sister
Ok now I am going to check you
Your right eye ached last time? Right? And I gave you medicine for that
P: yes (over-lapping)
D: it's been fifteen days, right? Or more than that, it has been around three weeks, right?
So with new medicine how do you feel?To is k sath ap kis tra feel kr rae o?
P: i am feeling better now pehly say to theek e feel kr rae hu
D: is there improvement?
P: yes, improvement is there but my eye still aches
D: one second, one second
no don't worry, don't worry
One second, relax
P: left eye moistens frequently
D: I will check it now
one second, don't worry. Don't worry at all.
One second, relax
there seems to be a new problem
P: yes I think so
D: ok wipe it with this tissue
P: there was a mark in my eye. I think it is dim now

D yes, it is improved
P: I think so
D: okay, put your chin here
P: NV
P: May I close this eye?
D: oh no, that eye is to be examined
P: And the other eye?
D: don't worry just look at me through this equipment
P: examine this eye first
D: Yes, that's what I am going to do
put your hands aside, don't worry, look towards me. Look here (pause)
D: look towards me (pause) open your eyes please
P: N.V
What was that?
P: Nothing. It is just pain
D: Here is severe infection
look towards me. Has it happened before?
Yes. Stop here(pause) stop moving
P: doctor please close the door. It hurt my eyes.
D: okay, okay. Does it hurt?
look towards me. No, leave it. This way (NV)
P: (NV) this way?
D: Okay, okay. No problem
Have you used any eye drops for your eye?
P: Yes, that tube, which you prescribed, I used that last night
it increased the pain
D: Why did you applied to your eye?
P: that was okay for me
D. I again ask you, why did you use that tube in your eye? It was the first time that you used that medicine?
P: Yes doctor
D: Why?
P: that was what it was meant for
D: I am going to prescribe two different eye-drops. One for each eye
P: separate drops for each eye
D: okay?
Continue the previous one for the other eye
P: does it make any difference? Will the pain be relieved?
D: Sure. Sure. That's why I have prescribed the medicine
The previous medicine reacted you. It was not the right choice for your eyes. Use this medicine. After one week come again for the check-up
Today is Tuesday. You will come next Tuesday.
P: it is not a big issue, is it?
D: No, don't worry. It is not a severe issue just give some extra care to your eyes
By the grace of Allah everything will be okay.
P: am I supposed to take half tablet in the morning and half in the evening likewise?
D: Yes, that's how it is supposed to be. Today's medicine is just for left eye. Use the tube only during night. During daytime use the eye-drops three times a day.

P: left eye
D: Yes, it is for left eye. Use it and come for the next check-up next week. Don't take tension. Minimize your tensions. If you take tension that will be harmful for your eyes.
P: okay as-slam-o-alaikum
D: okay wa-alaikum salaam.

Text 2:

D:as-slam u aleikum . come here and sit on this stool. How are you?
P: Wa-alaikum as-slam
D: what is the matter?
F: sir we got treatment for eye from Allied hospital
D: Did you get treatment from Allied?
P: Yes sir. I could not see properly. They treated it with rays.
D: okay so when did you go through this treatment?
P: about six months ago
D: Okay it's been six months. Is there no improvement?
P: I still cannot see properly
D: you cannot see properly
P: yes I feel it difficult
D:mmm
P: it is difficult especially from some distance
D: Okay. Did you go for post-operation check-up to the same doctor? Did that doctor give you an appointment?
F: No, he didn't prescribed anything. We could not find him on each visit to the hospital. He is never there
P: then we went to another doctor. His clinic is on canal road
D: You could not find that doctor. That other doctor who gave you treatment, what was his prescription?
P: He said after operation, the size of eye has been changed. He suggested us to go back to Allied to the same doctor. And we could not find that doctor.
D: did you go through pre-operation tests?
F: here NV
D: What were the dues you had to pay to the Allied hospital?
P:30000 rupees
D: that is a big amount
P: yes, it is
D: was that all?
P: no, we purchased the lens separately
D: Separately? Didn't they provide you the lens?
P:No. we purchased the lens in five thousand rupees
D: You paid an extra five thousand rupees for the lens?
P: Yes
D: Okay let me examine your eye. Come to the machine and sit here
P: NV
D: put your chin and adjust the forehead in the machine
P: NV
D: look towards me, adjust the chin
D: Do you have an eyesight problem as well?

P: my eyesight is misty
D: Okay opaque
P:yes
D: There is no problem with the operation
P: No problem with the operation
D: but your eye is reddened
P: I cannot understand its reason
D: Do you have diabetes or BP problem?
P:Not at all
D: Okay, you don't have diabetes and BP issue. Let me check. Look towards me. Okay. I will give you laser treatment. And by the grace of Allah, you will be okay. Can you visit me tomorrow?
P: Yes. What time?
D: okay. Come tomorrow around 8 AM. I will give you laser treatment in madina hospital room no 107
F: work in Madina hospital?
D:Yes I will be there from 8 AM to 1 PM. Confirm the address from my assistant. Here is you patient file.
P: NV
D: we will start your medicine from tomorrow. God will help all of us
P: Bye

Text 3:

P: As-slam o alaikum
D: Wa-alaikum as-slam How are you brother? Daughter you are here after eleven months. You are nineteen years old now, right?
F: Around
D: Where do you live?
F: peoples colony #2
D: people's colony #2. What's the matter now?
P: My eyes ache.
D: From how many days?
P. about three days
D: In both eyes?
P: in one eye it is severe
F: in left eye
D: Do you get your eyes red quite frequently?
P: no
D: From when do you use contacts?
P: From years
D: Okay read that board.
P: NV

Can you read the letters in the last?
P: Yes
D: Last time you didn't have this problem. Okay, let me check. Come to the machine and sit.
P: NV
D: do your eyes moisten?
P: No
D: Your eyes are getting red.
P: yes, pain too
D: Relax. When do you go to sleep daily?
P: I don't burn mid-night's oil
D: Right. Look straight in the machine.
P: NV
P: Have the number of my contacts been changed?
D: hmmm I think the number is the same. This is something else. Here we have got the computer-generated number. It is your most recent.
P: Is it same:
D: Let me explain it to you. I didn't disclose it to you beforehand because I did not want to influence your opinion. Right?
P: Right.
D:First class? Now?
D: Look here
P: NV
D: Right?
D: so you see, the number you are already using, that and the number which this computer shows is almost the same. The difference is that of just 0.25 number and that is insignificant. So you will continue using the same glasses.
D: now we will see which treatment might be the best for the other problem. I am going to check you for this problem. Sit straight. Look towards this machine
P: NV
D: relax. Don't worry. Please relax. Look towards your right and then left. Now we will apply some eye-drops. Take this tissue
P: NV
D: so it is decided that we are not going to change the glasses. I hope you will be alright with the present treatment.
P: Thank you doctor

Text 4:

P: asslaam-o-alaikum
D: wa'alaikum salaam
How are you now?
P: Now I am better.
D: Are you taking the medicine regularly?
sit on this stool

P: yes
(NV)
D: Did you take the prescribed injection?
P: yes
D: Let me check your BP Take breath properly
P: NV
D: Take this medicine for two days. Then I will give you complete prescription.
F: What is the matter with her?
D: the system of blood circulation towards her eyes has slowed down
F: give her some tablets
D: Okay, I have prescribed this tablet. You are supposed to take it twice a day. Right?
F: May God bestow her with good health
P: asslam-o-alaikum
D: wa'alaikum salaam

Text 5:

D: Come. What is your name?
F: A bibi
D: Yes?
P: I cannot see properly from these glasses
D: From when? What is your age?
P: I am 50 or 55 perhaps. From last 10 or 12 days
F: She took medicine as well but no improvement
D: Okay. Do you have diabetes or BP issue?
F: BP yes
D: Diabetes?
F: No
D: What do you do for BP?
F: She takes medicine for that she takes medicine for heart problem as well
D: Right. Which medicine do you take?
F: (medicine name)
D: who is your doctor?
F: he has his clinic in raza abad (clinic name)
D: Okay. Can you read that board?
P: I can read just the first line
D: close one eye and then then the other
P: NV
D: your eyesight is weak. at what time of the day do you feel the problem is worse?
P: every minute
D: I think your one eye has some serious issue.
P: yes. I cannot see properly.
D: Okay. I am going to check your eye up. Sit there.
D: Who is your doctor?
F: his clinic is in raza abad
D: Dr Zahid Rashed?
F: Yes

D: What is his judgement?
F: He says that she will be okay
P: But we went there just once
D: Okay, I am going to check it
D: Look straight. Open your eyes properly. (Pause) Open your eyes please
Now I am applying this medicine in your eyes. I think your capacity to see is affected.
And that's why there is eyesight problem in your eye. Let me check your BP as well
Normally what is your blood pressure
F: 150-160
D: okay
F: Her blood pressure is controlled only with medicines
D: Okay. Her blood pressure is controlled only with medicines.
Checks BP (NV)
It is 180 now
When did you get your blood pressure check last time?
P: Many days ago
D: that's wrong
F: yes. I admit. We ought to check regularly
P: I have severe pain
D: This pain is a chief reason of your high BP
F: (overlapping) change her medicine for blood pressure
D: No. the medicine will remain the same.
D: (overlapping) sit in the other room please
After a while I will call you in once again and check your blood pressure.
P: Okay