Pragmatics and action

It was noticed that participants' speech varied in complexity and consideration was given to investigating whether certain talk-types contained more specific speech than others. For example, "Design proposal" and "Dimension/location" talk should provide detail about sizes, locations, materials, and be highly specific. "Comment" and "Question" talk, for example, would not be expected to contain design-relevant detail; hence, it should be low in specificity. Analyzing talk for the presence of nouns, pronouns, and adverbs was appropriate as a simple test of an utterance's descriptive specificity. Table 6.9 records the use of nouns (naming words providing specificity), and pronouns and adverbs (words reducing the preciseness of talk), in these four talk-types sampled across the videotapes. Action-type and the "Role of action" of each sample was also recorded.

Table 6.9 provides evidence that: (1) High specificity talk-types "Design proposal" and "Dimension/location" have a high incidence of Talk & Action. Lower specificity talk-types "Comment" and "Question" have a mix of talk, and Talk & Action. (2) "Design proposal" talk-type averages more words per event than the other talk-types. However, in each talk-type the structure of sentences contains large numbers of pronouns and adverbs compared to nouns. (3) "Locating/indicating" actions have high incidence across all four talk-types, and a very high percentage of events in each talk-type gain lucidity only by viewing the action accompanying talk. These results indicate that

Table 6.9. Summary of talk-type, role of action, action-types, and vocabulary in a sample of design events

Talk-type	Role of action	Major action-type	Numbers of words in events	Statistics for noun/pronoun/adverb in events
Design proposal 3 talk only 32 talk & action	3 Embellish 7 Identify 22 Gives meaning	24 Locating/ indicating 15 Constructing 15 Gesturing	av = 30.31 s = 17.2 n = 35	Σ = 118 / 78 / 48 n = 31, 28, 24 av = 3.81, 2.79, 2.00 s = 2.14, 1.87, 1.02
Dimension/location 27 talk & action	4 Embellish 7 Identify 13 Gives meaning 3 Unrelated	17 Measuring 13 Locating/ indicating 6 Examining	av = 16.96 s = 14.86 n = 26	Σ = 65 / 34 / 35 n = 23, 15, 18 av = 2.83, 2.27, 1.94 s = 2.57, 1.22, 1.39
Comment 12 talk 24 talk & action	2 Embellish 10 Identify 11 Gives meaning 1 Unrelated	12 Locating/ indicating 9 Examining 7 Constructing 7 Gesturing	av = 14.31 s = 7.67 n = 36	Σ = 47 / 48 / 38 n = 24, 31, 24 av = 1.96, 1.55, 1.58 s = 1.08, 0.68, 0.78
Question 15 talk 22 talk & action	10 Identify 11 Gives meaning 1 Unrelated	10 Locating/ indicating 11 Examining 6 Gesturing	av = 11.24 s = 6.25 n = 37	Σ = 47 / 43 / 38 n = 25, 25, 22 av = 1.88, 1.79, 1.73 s = 1.13, 0.72, 1.03

Note
av: the average in the applicable events.
Σ: the sum of the relevant item in the applicable events.
n: the number of applicable events.
s: the standard deviation around the average.

team members speak with a simple vocabulary and add a visual channel to their communication to illustrate certain elements of the oral delivery.

Discussion

The results of this research indicate that design talk does not occur in isolation from artefacts and actions involving artefacts. The major role of action for the participants of the seating clinics was to make practical the ideas they wished to express. In some cases action was performed to illustrate to listeners things that were difficult to express in words, thereby enhancing the understanding of talk and making competent a communication. In other cases action was performed more as a private affair to help the actor clarify things in his or her mind by providing the opportunity to test ideas, check relationships, and visualize cognitively difficult concepts. Action performed by a speaker frequently induced the involvement of the other participants. Participants were observed to act in unison, to finish another's action, and to complement another's action, which is similar to verbal interaction that occurs between two speakers. It was observed that an idea proposed by one person underwent enhancement during its journey through a to-and-fro exchange between two, sometimes three, participants. This idea enhancement is reminiscent of a tag team where one participant takes the idea, works with it, then passes it on, or has it taken up by the next player who works some more before releasing the modified idea.

Artefacts

Approximately 83% of actions in the Talk & Action events involved an artefact. The artefacts employed by clinic participants to assist their actions were frequently the elements associated with the current discussion – for example, an armrest on a wheelchair, seating hardware the speaker manipulated with respect to the client's body, or part of the client's body. Artefacts could also be things at hand such as a piece of polyurethane foam or an off-cut of plywood. Occasionally, it was observed in videotapes that a participant would retrieve an artefact from elsewhere and bring it into the discussion. Such artefacts probably better suited the concept to be communicated or provided a better opportunity to develop ideas through constructing an impromptu prototype or more appropriate test of an idea. Figure 6.4 shows an engineer and technician discussing options for attaching a chest restraint strap to the backrest of a seating system. A length of seatbelt webbing wrapped around a pen is being used by the technician to mock up a solution and test various locations and means of anchoring the strap. Simple artefacts and their assembly into impromptu prototypes can be as meaningful in context as dedicated, sophisticated hardware components.

Team members using artefacts, individually and in groups of two or more, gathered around the wheelchair discussing and trying out ideas, helped to build a common (shared) reference and mutual understanding about design possibilities, design and manufacturing decisions (specifications), and achievable outcomes. Artefacts served to focus the attention of the clinic participants, stimulated question–answer dialogue, and drew out participants'