

Chapter 6

Architecture of the system

6.1 Introduction

Having described in the previous chapter the instructional design rationale for the various components of *MMInteraktif*, we now turn to the description of the actual mechanisms of the package, and how the various components fit together. As mentioned in the previous chapter, the *MMInteraktif* package consists of three layers: the Browser, the Taxonomy, and the Lesson Sequences. There is a necessary additional layer of the package, Author Mode, which, because the creation of a methodology-based, learner-centred instructional design is the focus of this project, will not be dealt with in detail. An overview of the interface of the authoring mode is found in Appendix E. Author Mode and the Browser are written for the Microsoft Windows™ operating system, on an IBM™ or compatible personal computer (PC). The Taxonomy and Lesson Sequence layers are written in the Asymetrix Multimedia ToolBook™ authoring package.

6.2 Organisational Structure of *MMInteraktif*

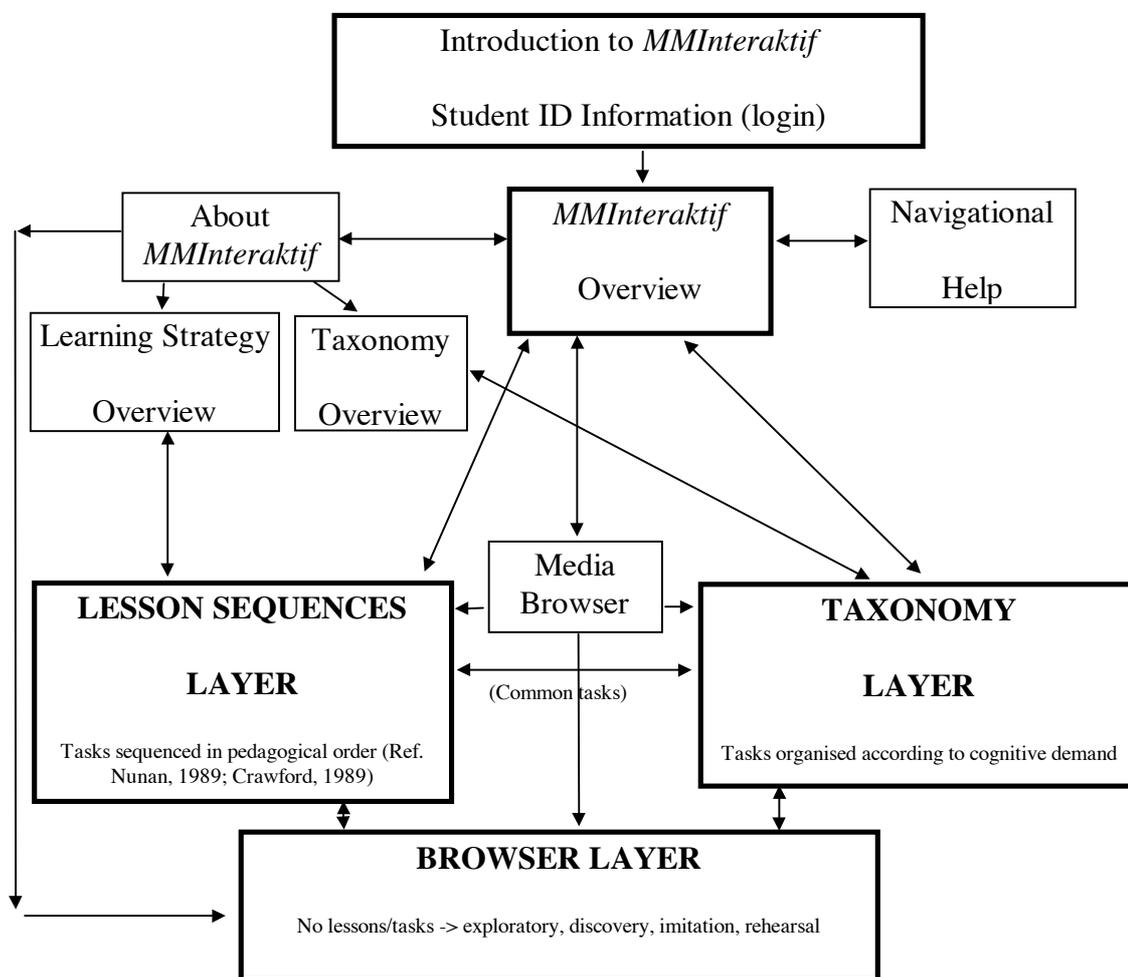
MMInteraktif is a multimedia browser and authoring package which can handle the incorporation of a variety of media, including text, graphics, animations, digitised audio, digitised video formats, CD-ROMs, laserdiscs, and (Digital Video Discs). Control of the media is implemented using the familiar cassette-type control icons that are common to most non-computer forms of media technology (consistent with the recommendations of Wood & Wood, 1987 as discussed in the previous chapter), and which have now been adopted by most computer-based media applications. The examples that will be used to

illustrate the functionality of the components of the package will be audiovisual and audio-only tasks from Indonesian as a Foreign Language (IFL) contexts.

In order to realise the principles identified in this work as being critical to improving the management of flow of control through the package (sections 1.3.1, 4.2.2, 4.11, 5.4, 5.4.3.3 and 5.4.3.4), the structure of the package has been designed to enable learners to control the majority of the management mechanisms in an informed manner. How learners can view the organisation of the package, decide what they want to do with it (determine goals and objectives), decide on their path or paths through it (plan their learning), do the appropriate tasks (centring their learning), and find the help and feedback material relevant to these (getting help and navigating) will be covered in this chapter. One of the principles critical to improving flow of control, as discussed in the previous chapter (section 5.4.3.5), is to maintain consistency of interface design and navigation mechanisms throughout the package. The realisation of this principle will also be described in detail.

In keeping with the experiences reported in the literature, that more learners than not (Nakhoul, 1993; Candy, 1987) need structure to be comfortable with their learning experience, it is envisaged that novice users of the package would probably begin at the most highly structured level: the Lesson Sequences layer. It is this layer in which lessons are presented in a sequenced fashion, similar to the order they might be presented by a teacher in class. Figure 6.1 below illustrates the organisation of the components of the package. As learners gain more experience in using the package, they would then move on to the Taxonomy layer, which is structured according to learner choices about the level of cognitive demand at which they want to work.

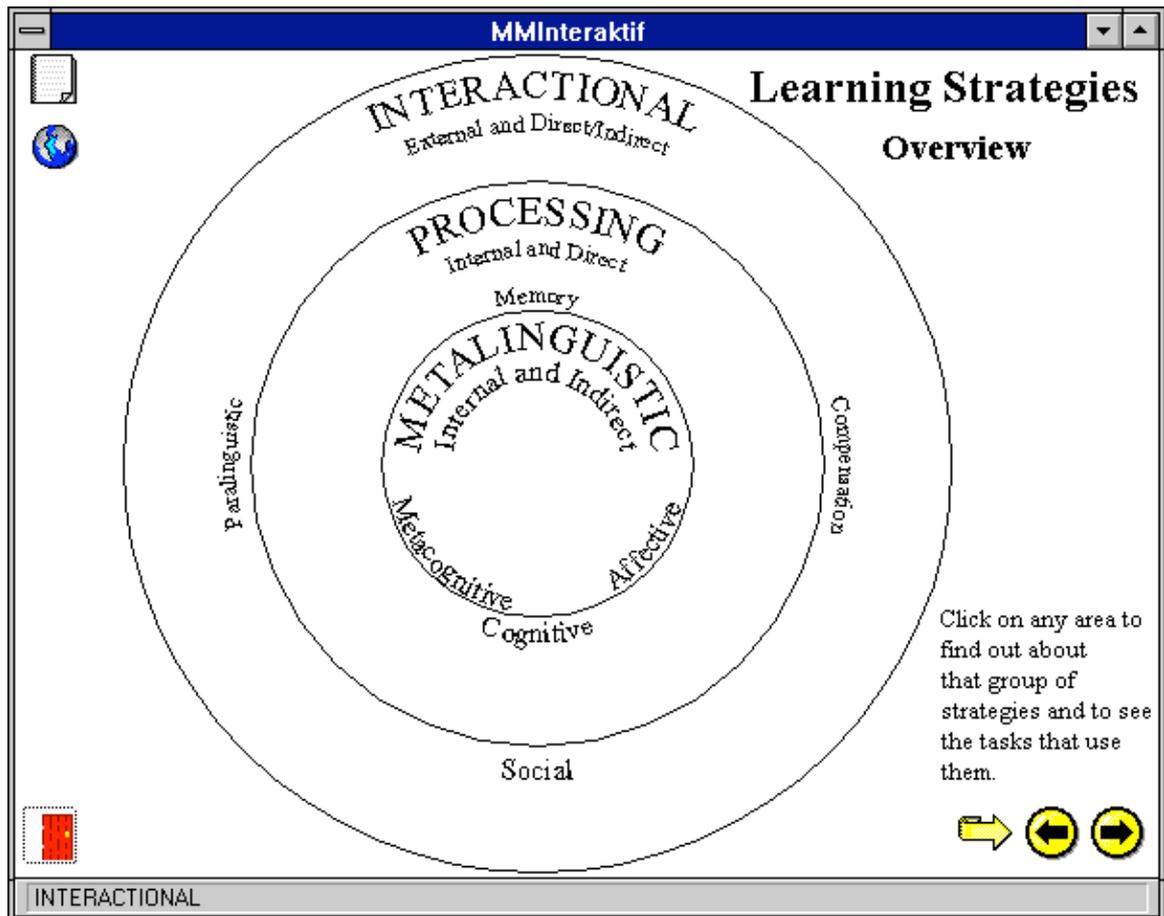
Figure 6.1 Modes of access to various components of *MMInteraktif*



The same tasks are shared across the Lesson Sequences and Taxonomy layers. The main difference between these two layers is the conceptual mode of access. Students requiring focus on progressive development of their listening and viewing comprehension skills using individual media segments or whole media texts choose the Lesson Sequences mode of access. Those students who wish to focus more on the cognitive side of learning and the development of cognitive skills at different levels of demand choose the Taxonomy mode of access. In this mode, they can select a cognitive skill to work on, and then practise this skill, doing similar tasks, across a range of media. In other words, for

tasks in the Lesson Sequences layer, each unit of tasks is based on one media text, whereas in the Taxonomy layer, each unit of tasks can be across a range of media, while the level of cognitive demand remains constant.

Figure 6.2 Learning Strategies Overview



In addition, learners can view, and refer to at any time, the range of learning strategies associated with various tasks by means of the Learning Strategies Overview (see Figure 6.2 above).

After some experience with the package, learners would be ready to explore the Browser Layer, which is actually the backbone of the package. Because the Browser underlies many of the features of the Help and Feedback mechanisms of *MMInteraktif*, it will be described first, even though this would probably not be the normal entry point for a

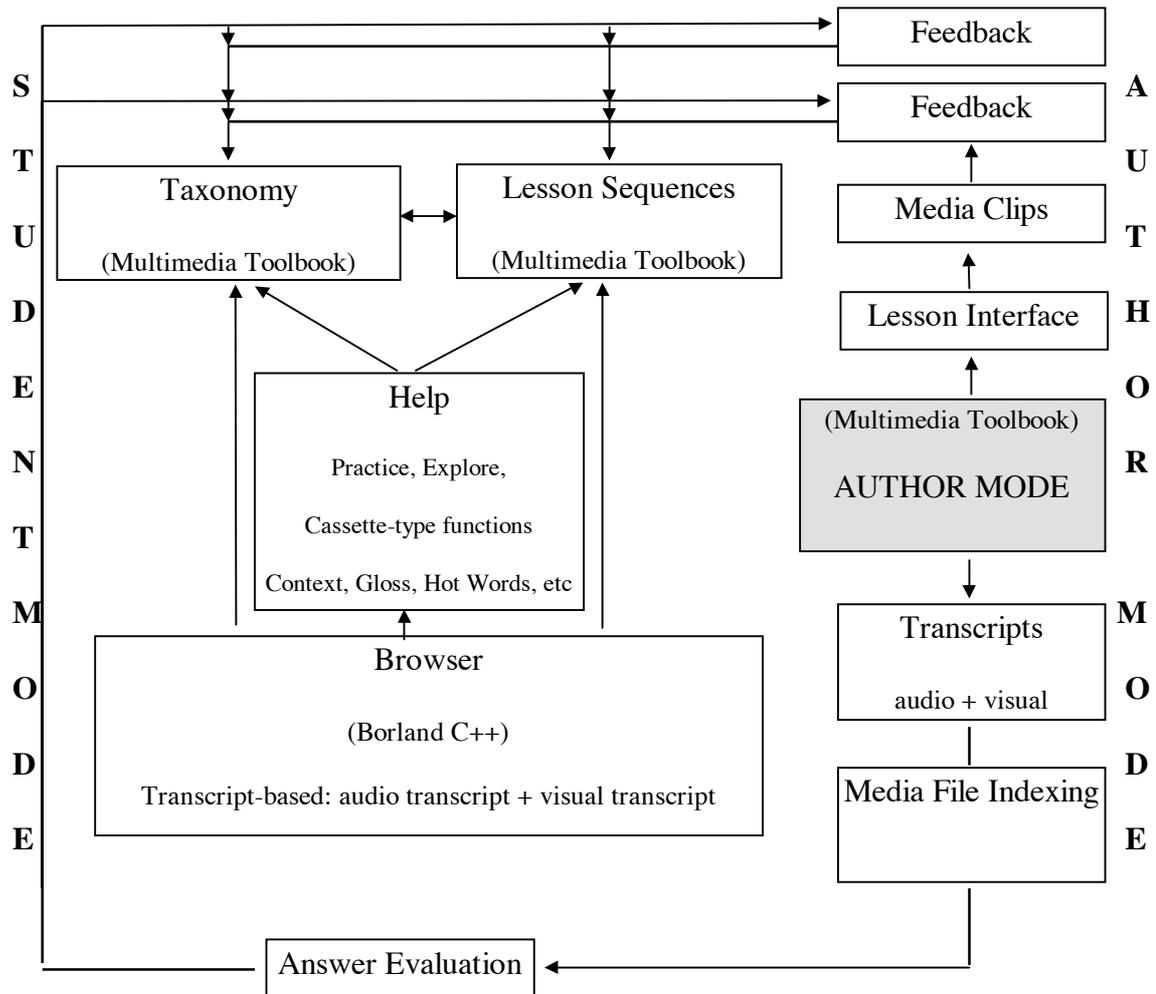
novice learner. However, the package is structured so that learners may choose to enter and begin exploring at any layer, regardless of their level of proficiency with computers. Thus, should they wish to do so, learners may ignore the lessons or tasks completely, and use the Browser directly to explore the audiovisual texts and associated resources. As discussed in Chapter 4 on learning strategies (sections 4.2 and 4.10), such learners would be located high on the continuum of self-direction, nearing autonomy.

As illustrated in Figure 5.5 of the previous chapter, repeated below as Figure 6.3, *MMInteraktif* comprises several components, each of which is organised in a different way. The two-way arrow between Taxonomy and Lesson Sequences reflects the fact that the same ‘tasks’ occur in both layers, though with different organisational structures. The location of Help between the Browser and the Taxonomy and Lesson Sequences represents the derivative features of Help, drawing as it does from the features of the Browser, as well as other special Windows-specific Help mechanisms such as the Windows Help Files, which have been modified to provide the Grammar Reference Notes with alphabetical and search-by-topic features.

The Author Mode located to the side illustrates its dual character: the Browser features written in Borland C++, and the Lesson and Taxonomy ‘tasks’ written in Multimedia ToolBook. The Browser features are built up from transcript files, which are then indexed according to the kind of media file used (frame numbers or minutes and seconds for laserdiscs; sound file byte offsets for digital audio files), and then opened in the Browser, or accessed from the Taxonomy or Lesson Sequences. The Answer Evaluation component is located at the bottom to reflect the fact that it is written in Borland C++,

which is better for string manipulation and complex regular expression evaluation, and that it is attached at this 'low level' to both the media files and the transcripts.

Figure 6.3 **Organisational Structure of *MMInteraktif*** (also Figure 5.5)



Coming from the upper side of Author Mode are the Lesson Interface, Media Clips, and Feedback components of the Taxonomy and Lesson Sequences layers, which are written in Multimedia ToolBook. The various models or templates for 'tasks' or lesson interface types are also written in Multimedia ToolBook. An additional endeavour, which is not part of this current work, but which will be discussed in relation to future directions in the next chapter, is the standardisation of the lesson interface to a limited number of

consistent templates for the presentation of tasks or lessons. In the process of authoring lessons, the steps described and illustrated in Figure 5.6 of the previous chapter are used to select appropriate media clips, match these with tasks from the Taxonomy, select appropriate lesson interface features, and write lesson- or answer-specific feedback to be linked into the lessons, and, where indicated, the answer distracters.

In the next sections, the functionality of the interface each of the crucial layers of *MMInteraktif*: the Browser, the Taxonomy, and the Lesson Sequences, will be described in detail.

6.3 Control mechanisms within the package

The Browser layer of *MMInteraktif* is the free-form exploratory layer, based on transcripts of the audio and audiovisual texts. For the full multimedia functionality of the Browser to be implemented, as conceptualised in sections 2.3.1, 2.4.2.2 and 4.11 of earlier chapters, it is necessary for the author to create transcripts of both the audio texts and the visual texts. The visual transcript, for example, consists of a description and classification of the visually represented actions and interactions, which may reinforce or contradict the verbal interactions. It is these transcripts which provide the linguistic and paralinguistic ‘databases’ from which the lessons and parts of Help are drawn, and which also provide exploring learners with the background information and context necessary for them to interact with and negotiate the texts, as discussed in sections 4.8, 4.11 and 5.3.

A learner opening the *MMInteraktif* package for the first time, by clicking on the *MMInteraktif* icon from Windows, comes first to the ‘Introduction Page’ (see Figure

6.4a below) which requests the learner's name, student number, and level of language study. The information entered here is used for keeping a record of each learner's interaction with the package.

Figure 6.4a **Introduction Page**

MMInteraktif

MMInteraktif

Computer Enhanced Language Learning Activities for Indonesian.

Surname	<input type="text"/>
First Name	<input type="text"/>
Student ID	<input type="text"/>
Subject Code	<input type="text"/>

Enter your details in the boxes above by clicking in each box and typing then press the  button to continue.

To exit *MMInteraktif* click on the door in the bottom left hand corner.

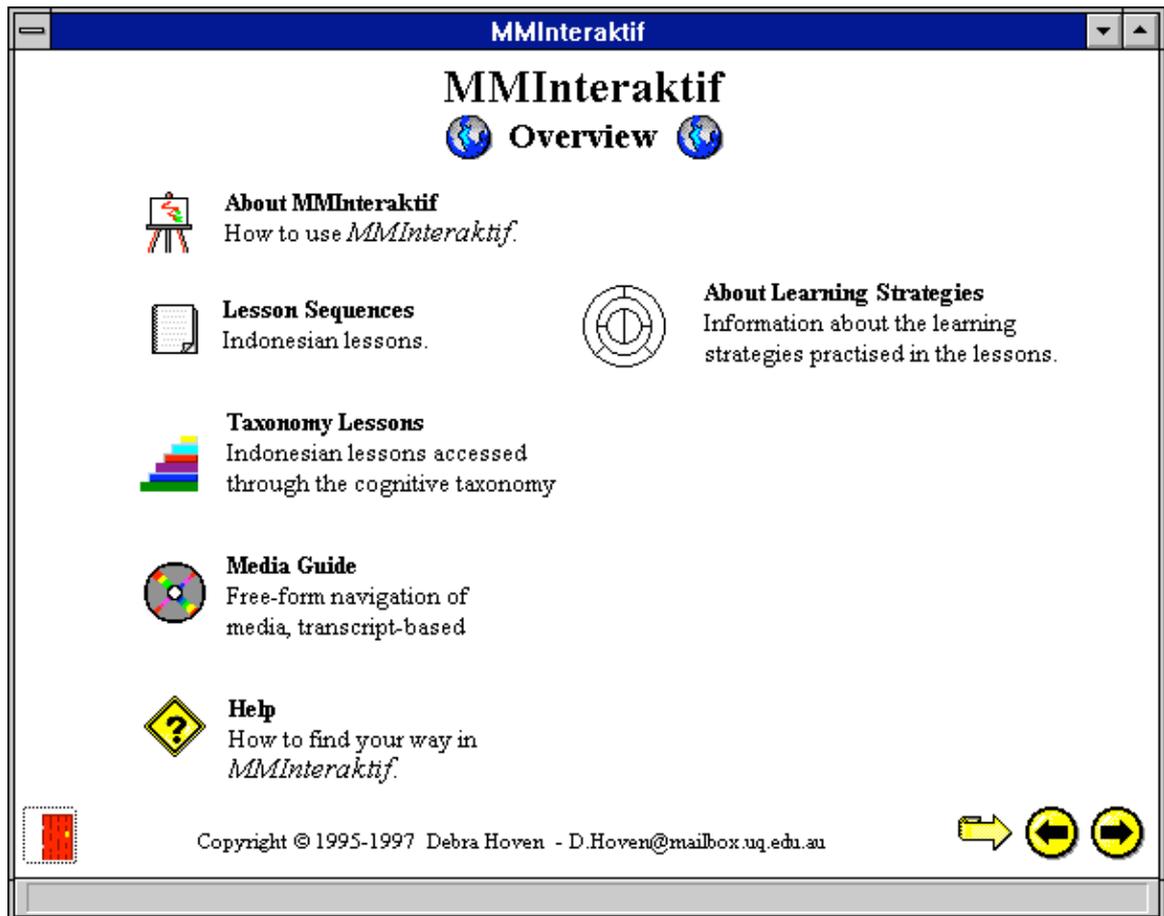
Copyright © 1995,1996 Debra Hoven - D.Hoven@mailbox.uq.edu.au



The Introduction Page then opens to the Overview Page which offers the learner a choice among Lesson Sequence, Taxonomy, and Browser layers as well as access to help on using and navigating *MMInteraktif*, as illustrated in Figure 6.4b below.

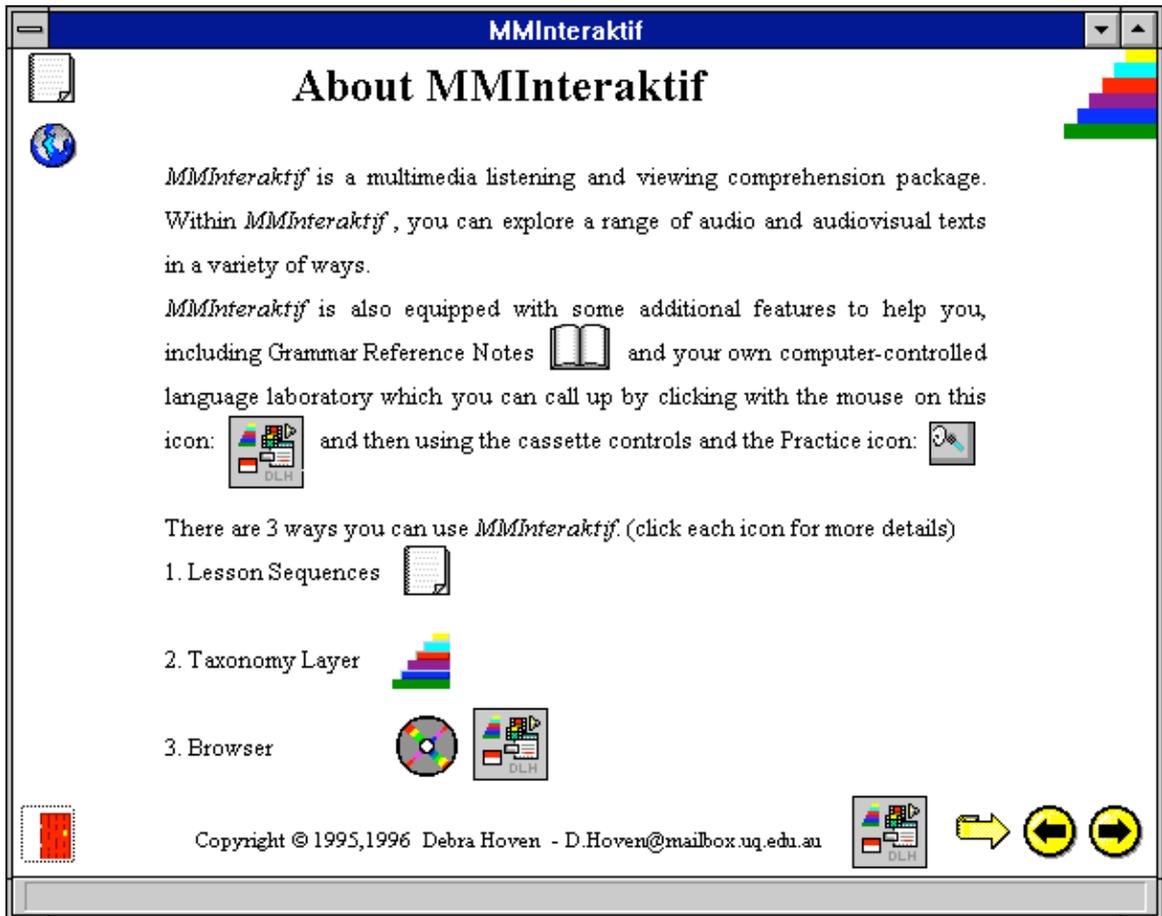
On subsequent usage of *MMInteraktif*, when learners are already familiar with this information they can go directly to the tasks from this Overview Page, using the icons as instructed.

Figure 6.4b *MMInteraktif* Overview



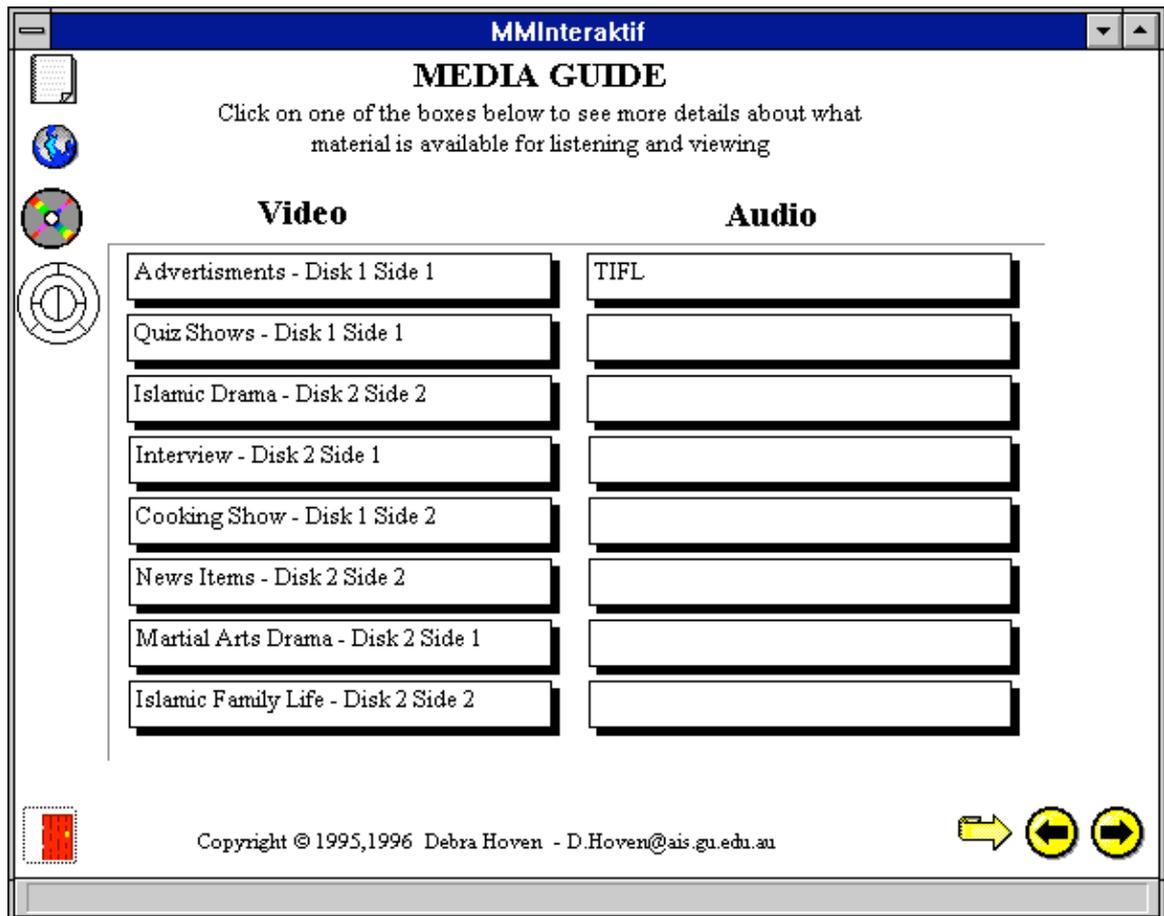
Selecting the first icon, 'About *MMInteraktif*' presents learners with a screen containing information on the structure of *MMInteraktif*, and the functions and purposes of the various components (Figure 6.4c below).

Figure 6.4c About *MMInteraktif*



By selecting Media Guide with a mouse click, learners are prompted with a table of contents of media material that is available (see Figure 6.5a below), together with the location of the media resources (for example, on which side of which laserdisc).

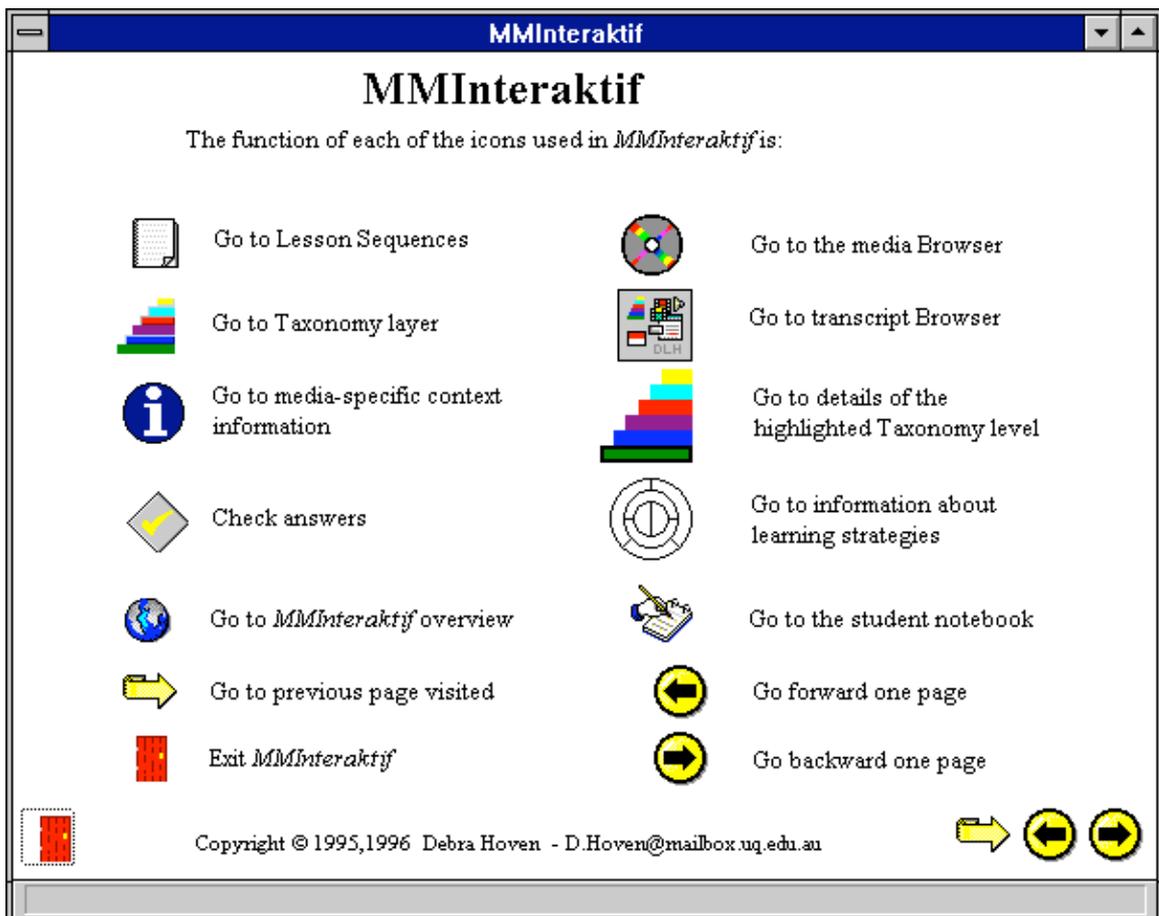
Figure 6.5a Media Guide



This Media Guide is in hypertext format, in that learners can call up an information window on each of the items in the Guide by clicking on it. By selecting one of these, the media resource opens, and the associated transcript for that media segment is automatically loaded. Learners can then work through the Lesson Sequence based on that media resource. The transcript is not visible to learners until they specifically choose the Browser icon. Learners can also move directly from the Media Guide to the Lesson

Sequences associated with the media text of their choice, or to the Taxonomy or Browser layers. Also located on the ‘About *MMInteraktif*’ page is an icon leading learners to help on the navigational features used in the package, as illustrated in Figure 6.5b below.

Figure 6.5b Navigation Help

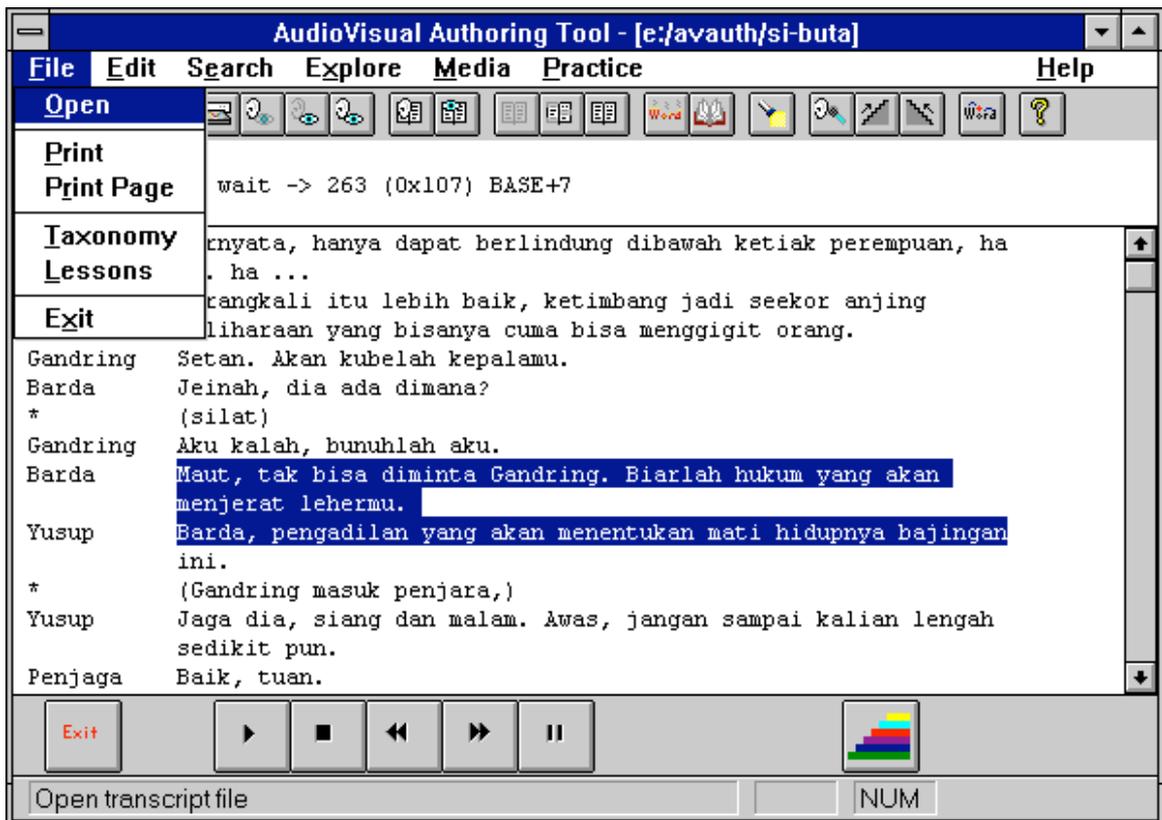


6.3.1 *MMInteraktif* – the Browser layer

Within the Browser, there are four different areas of control: *Media*, *Exploration*, and *Practice*, in addition to the *File* area which is used for choosing transcript files with their accompanying media texts, for printing, for moving to other layers, and for exiting the program. These four areas of control are accessed and controlled from both on-screen

icons, and the usual application menubar. For most functions there are two means of access, through the menubar, or via icons activated by a mouse click (see Appendix A for full details of menu commands and icon functionality). Some of the more commonly used functions also have a third means of access – via the keyboard in the form of ‘shortcut’ keys.

Figure 6.6 Browser – File Open



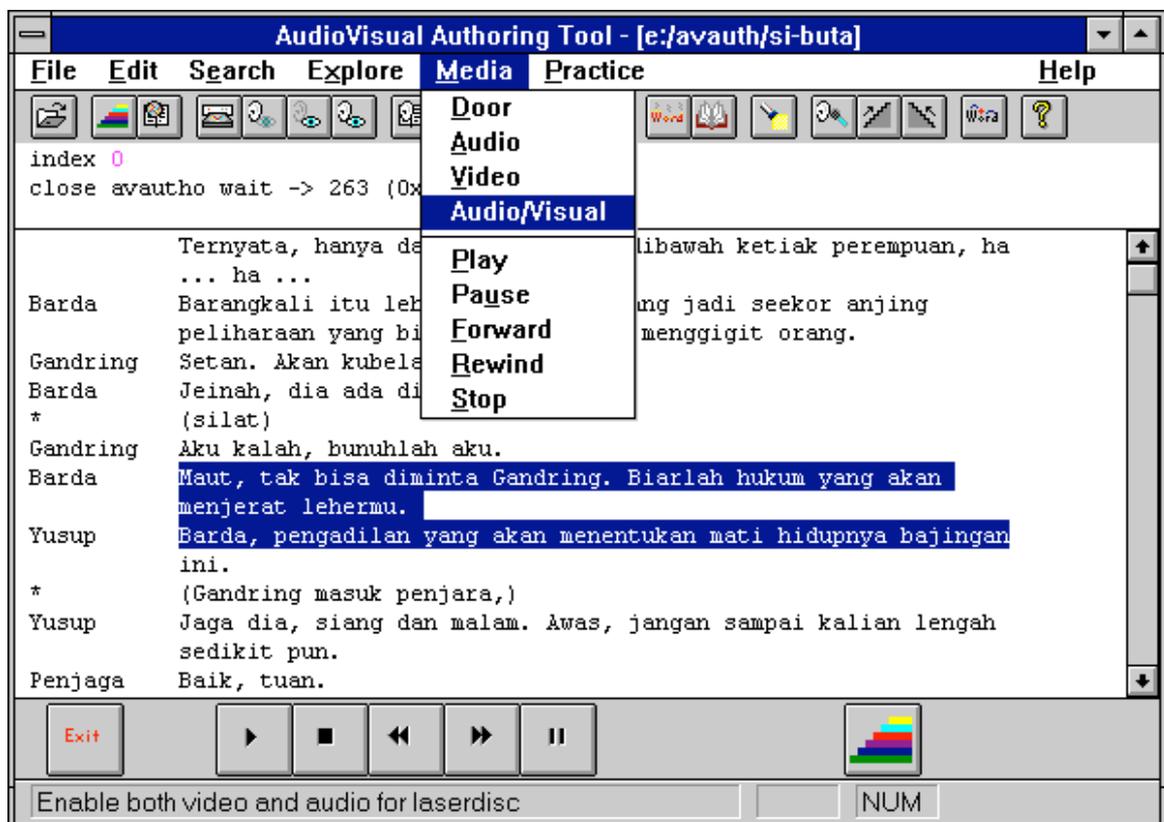
The Windows facility to display the functionality of icons in text form is adopted in *MMInteraktif*, in keeping with Gordon’s (1994) suggestion, discussed in section 5.4.3 of the previous chapter, to supply both iconic and textual indications of functionality. This is done in the status bar at the bottom of the screen (see Figure 6.6 above). As the learner passes over iconically represented active areas with the mouse, the function or purpose of these areas appears in text form in the status bar at the bottom of the screen. Each of the active areas and associated functions is listed below. Throughout the Browser, text is

selected from the transcript using the mouse, as in the common Microsoft applications (such as word processors) with which learners are familiar.

File items control navigation at the highest level and consist of:

- Open* opens a Windows-standard scrolling dialogue box for the learner to choose the desired transcript
- Taxonomy* links to the introductory screen of the Taxonomy layer
- Lessons* links to the introductory screen of the Lesson Sequences
- Print* allows learners to print their on-screen notebooks (see below)
- Exit* exits *MMInteraktif*, taking the learner back to Windows Program Manager.

Figure 6.7 **Browser – Media**



Media Controls comprise two complementary components, the cassette-type controls, and the controls for which particular mode of a media segment is to be played. The Cassette controls, which are found on the bottom left side of the screen, include:

<i>Play</i>	play continuous (cf. linear video or audio tape)
<i>Pause</i>	pause at any point and resume play
<i>Fast Forward (FF)</i>	fast forward in both audio and audiovisual – skip ahead or back in pre-designated chunks ('samples' – in audio), or the specified number of frames (on laserdisc or with digital video) to move quickly through the text (without hearing or seeing the text)
<i>Fast Backward (RW)</i>	fast backward in both audio and audiovisual – skip ahead or back in pre-designated chunks ('samples' – in audio), or the specified number of frames (on laserdisc or with digital video) to move quickly through the text (without hearing or seeing the text)
<i>Stop</i>	stops playing the media clip and closes the media window

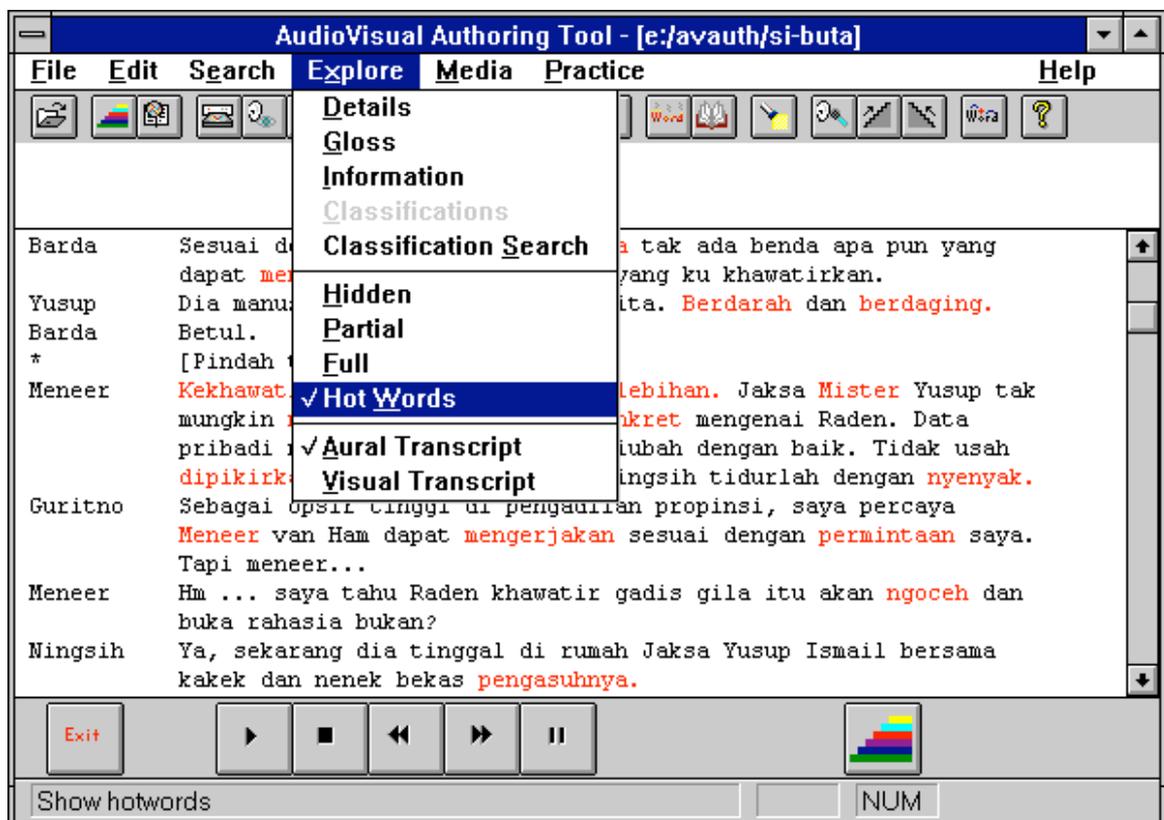
Mode controls provide a temporary override for the normal mode of play: combined audiovisual. They are found on the bottom right side of the screen and include:

<i>Audio only</i>	plays a selected clip without the visual channel
<i>Visual only</i>	plays a selected video clip without the audio channel
<i>AudioVisual</i>	(re)enables both audio and video channels
<i>Door</i>	controls the opening and closing of laserdisc or CD player door, for exchange of discs. When this is selected a message

window appears on the screen, informing the learner of the activity taking place. This window disappears when the action is complete.

The *Explore* menu items and icons control access to the textual databases and the associated searching, listing, and ‘hypertext’ facilities. *Explore* controls the mode of display of the transcripts and displays transcripts for different receptive channels (audio and visual) in keeping with the principles of individual differences discussed earlier in section 3.4.4. Under *Explore* learners can also display which words (‘hotwords’) have additional information attached to them, and display the message window containing this information.

Figure 6.8 *Explore* – Hotwords



Controls for the *Explore* facilities include:

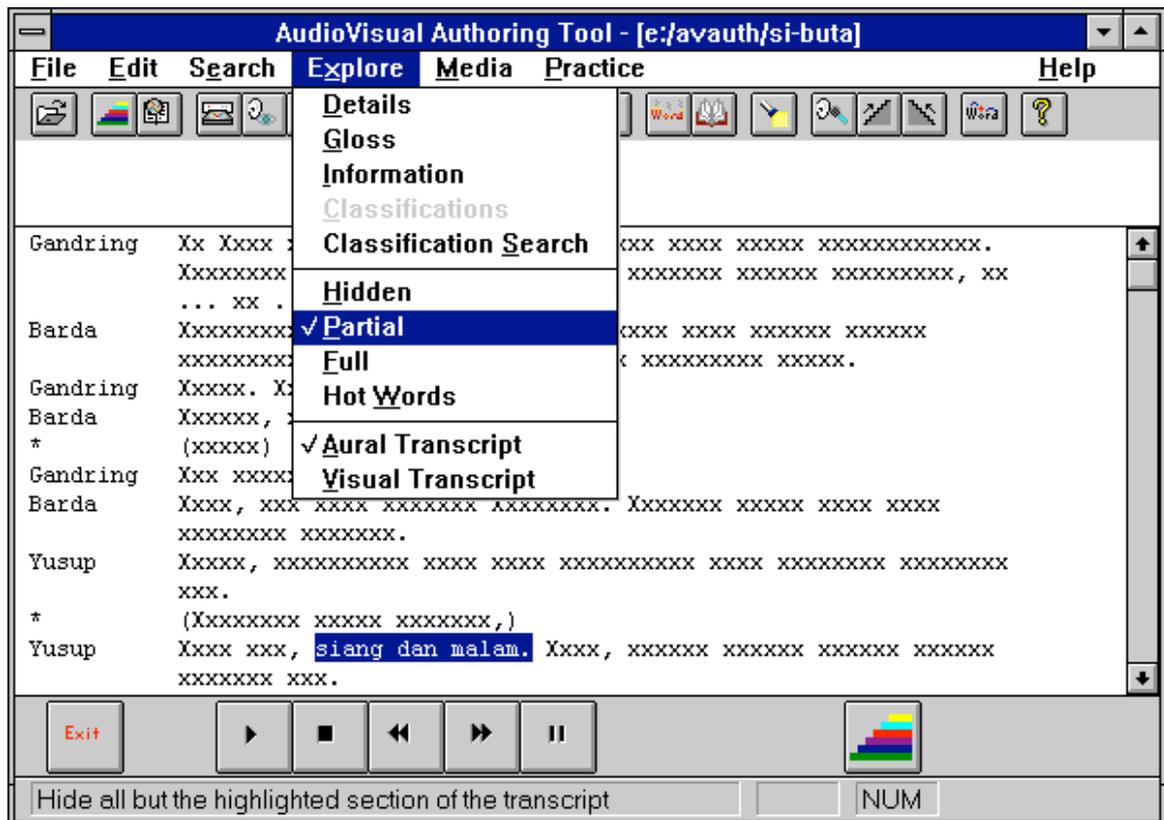
Mode:

Hidden the transcript is displayed with the letter 'X' replacing each of the characters. Capitalisation and punctuation is maintained to provide learners with the 'shape' and mood of the words, sentences, and utterances

Partial the transcript is displayed as for Hidden mode, but the selected, highlighted parts of the transcript are displayed in clear text

Full the full, clear transcript of the text is displayed

Figure 6.9 *Partial* transcript display

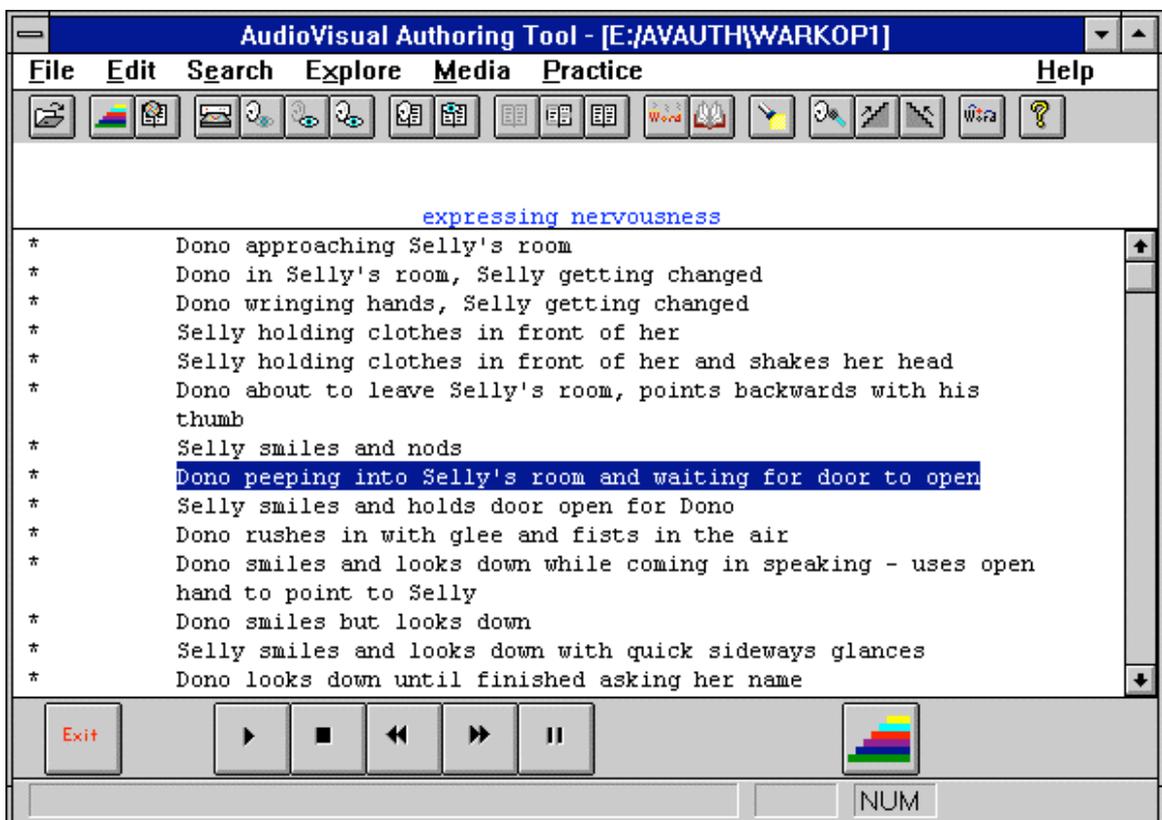


Channel-specific transcripts:

audio the transcript of the audio text is displayed, consisting of the name of the speaker on the left hand side of the screen, separated by a tab space from the transcript of the utterance of that speaker on the right hand side of the screen (see Figure 6.9 above)

visual a summary description of the visual interactions, including gestures, whole body movements, and facial expressions of participants is displayed in the main area of the screen, with functional classifications of these appearing above a separating line located just below the menubar. The functional classifiers are displayed in highlighted text colour (see Figure 6.10 below).

Figure 6.10 *Visual transcript*



Search or look-up functions:

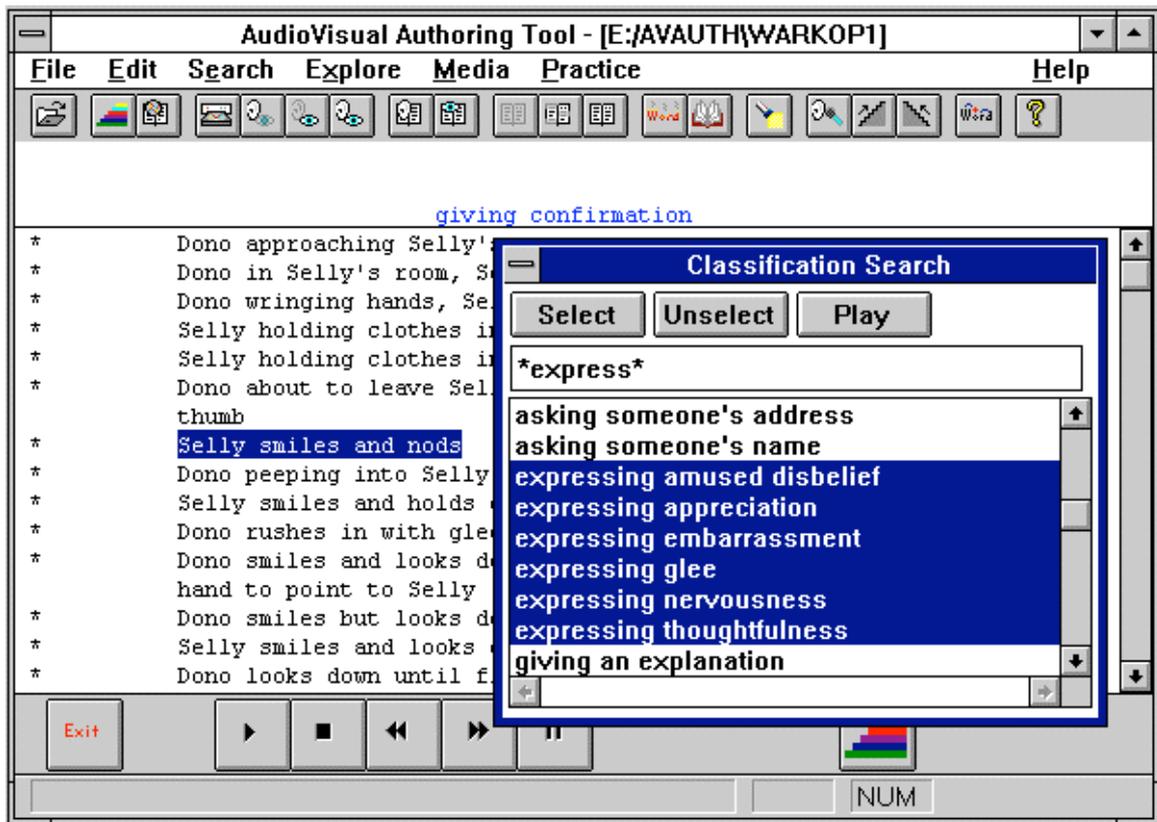
- (in *Visual* transcript display) select and play specific kinds of visual interactions in any of 3 ways from the **Search** command which brings up a message window:

1. type in a classifier by name of function, e.g. 'inviting s.o. to enter'
2. type in a basic form of classifier with a 'wild card' character (*), e.g. '* enter *' (this will highlight in a scrolling box all instances of this kind of interaction that has been classified, and play these consecutively at the learner's request)
3. select desired text segments by highlighting classifications listed in the scrolling box: these are then played consecutively;

(The **Search** command brings up a message window, as illustrated in Figure 6.11 below, that contains a *Play* button which, when selected with the mouse (clicked), plays the media segment linked to the selected classifier(s);

- in addition, *Visual Classifications* can be accessed directly in the transcript by selecting the **Classifications** command from the **Explore** menu. This brings up a message window into which the learner can type the name of a classifier or function. When the <Enter> key is pressed, all instances of that function are highlighted in the transcript (see Figure 6.11 below).

Figure 6.11 Classification Search



- *Help* on a highlighted word or phrase (in transcript):

Word Gloss (command from the *Explore* menu): displays an approximation of the highlighted word in English (see Figure 6.12a below)

Word Information (command from the *Explore* menu): displays information on the word i.e. its usage in context, information on colloquial phrases of which the highlighted segment or word forms part, and/or how the word is constructed from its base (see Figure 6.12b below)

Hotwords highlights in the transcript all words for which *Gloss* or *Information* is available

Figure 6.12a Gloss Window

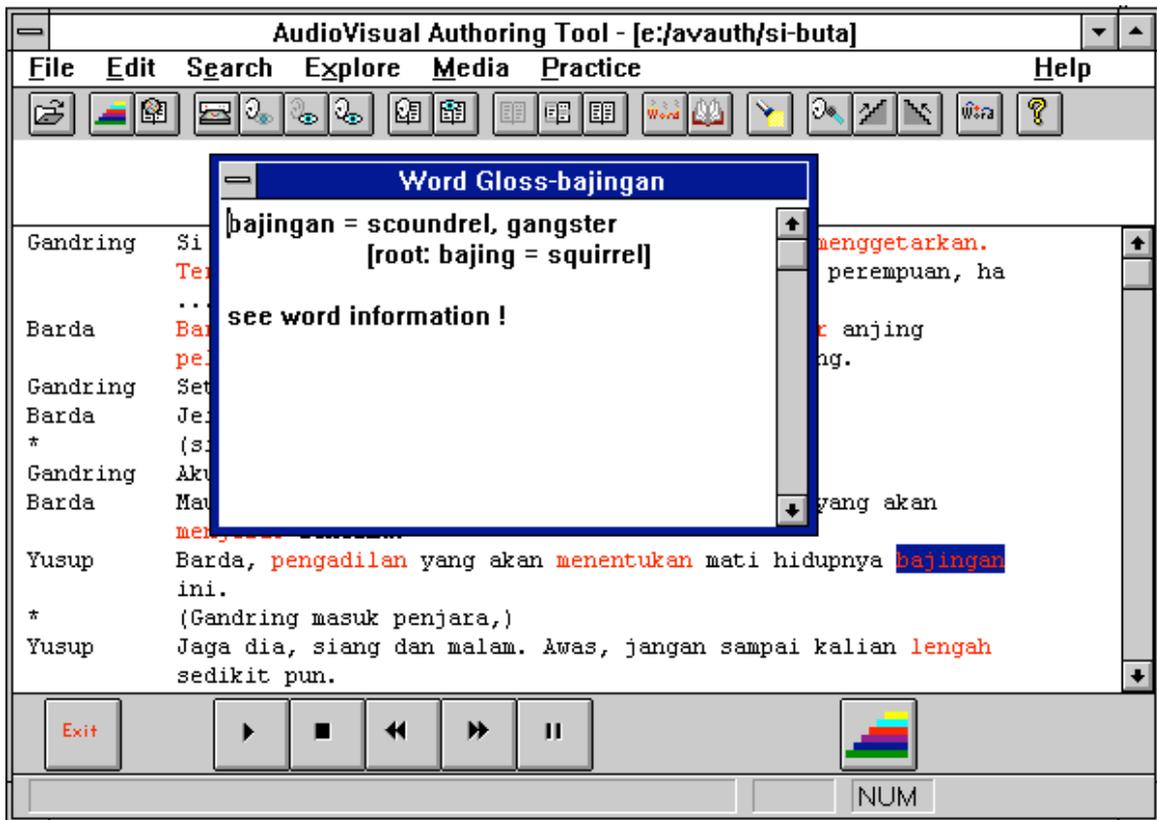
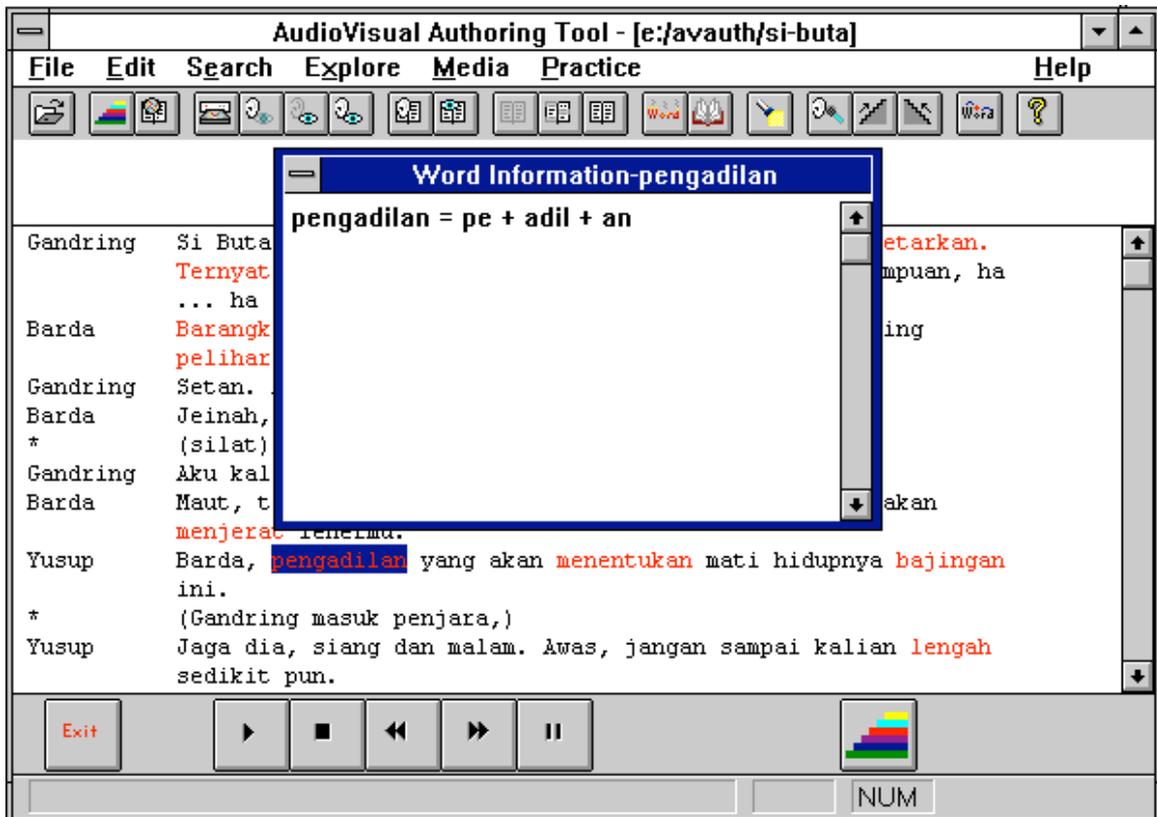


Figure 6.12b Information Window



- *Help* on grammar or use of the program as Windows Help Files:

Program notes gives information on the structure of and navigation through *MMInteraktif* (see Figure 6.13a below)

Grammar reference notes provides learners with full grammar notes that can be searched by topic (see Figure 6.13b below)

Figure 6.13a *Program help screen*

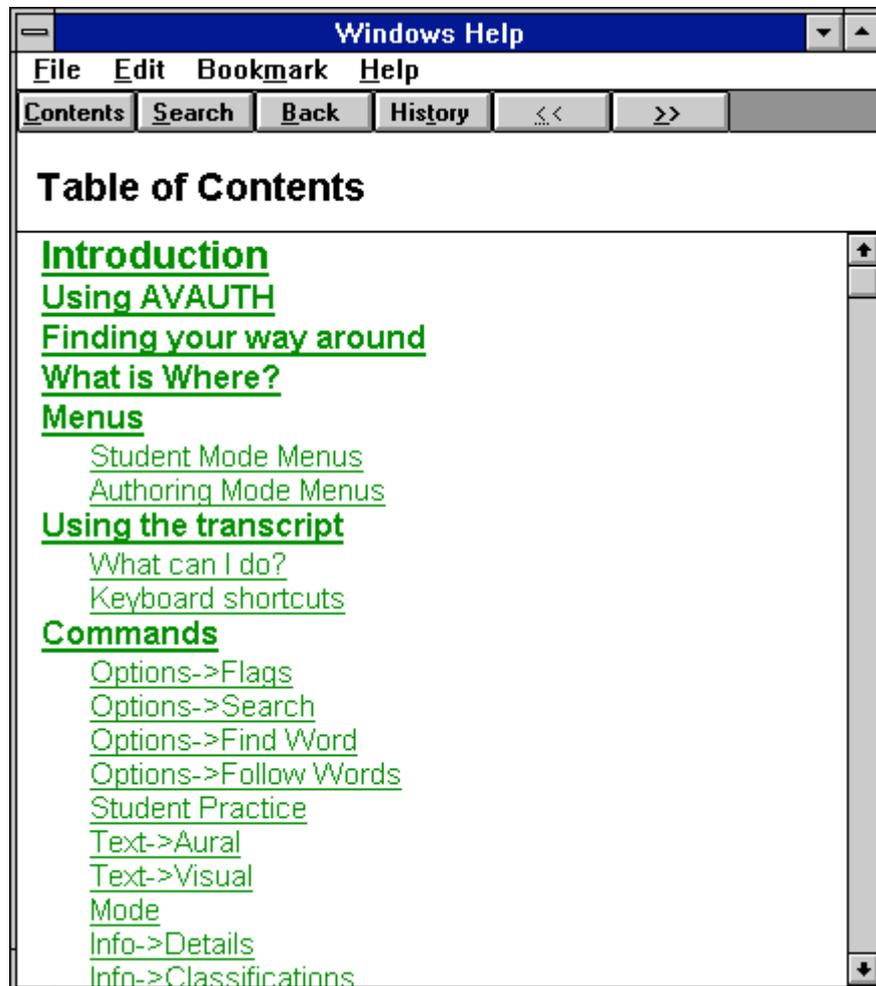
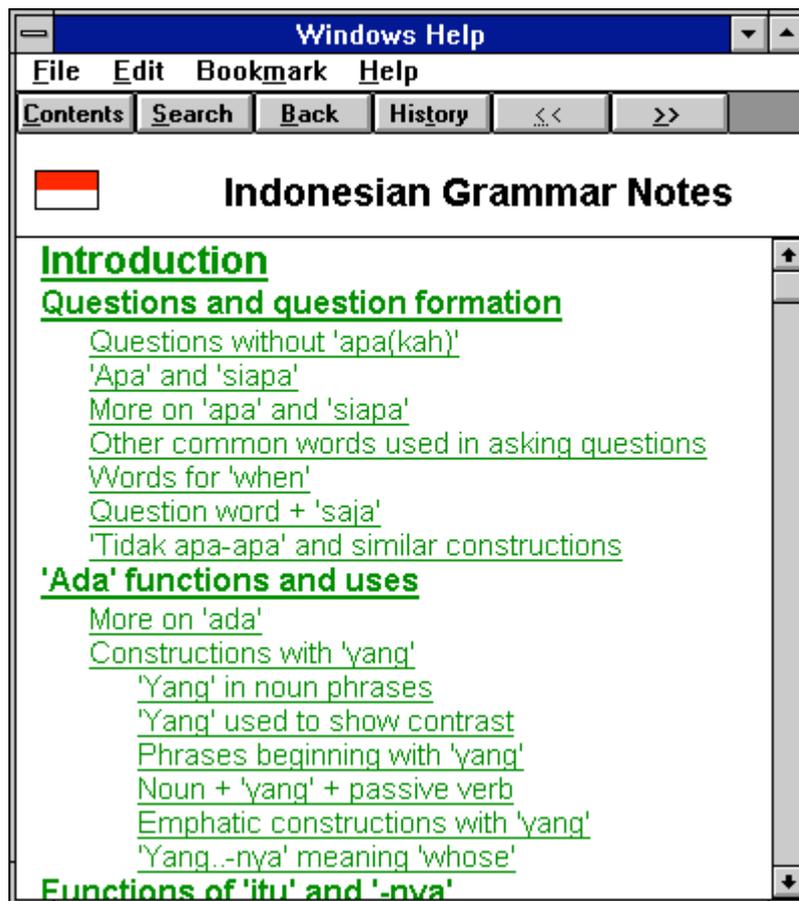


Figure 6.13b *Grammar notes*



The *Practice* menu items provide learners with access to means of recording their own utterances and comparing these with originals from the media text, and also provides a pronunciation and intonation practice vehicle similar to a language laboratory (see Figure 6.14 below).

Figure 6.14 Practice menu



The following facilities are available under the *Practice* menu and from the Toolbar:

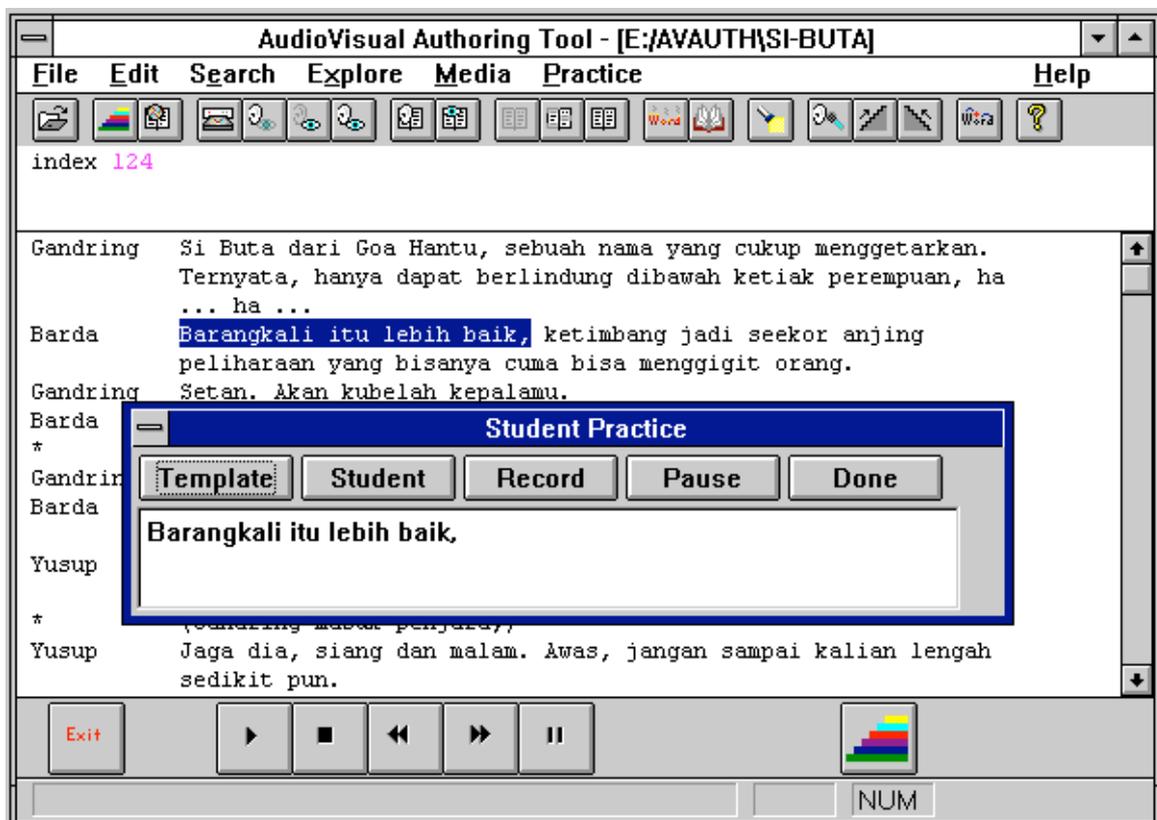
Forward Build-up when an utterance is selected from the transcript and this item is selected, the utterance is played from the **first** word, progressively incrementing this by a single word at each playing, with short pauses between each play of these word groups (default = 1 second)

Backward Build-up when an utterance is selected from the transcript and this item is selected, the utterance is played from the **last** word, progressively incrementing this by a single word at each playing, with short pauses between each play of these word groups (default = 1 second)

Practice learner record and play facility: the learner selects an utterance

from the transcript, selects *Practice*, and a message window appears (see Figure 6.15 below). In this message window, the *Template* is the selected utterance, and its transcript is displayed in the *Template* window. Learners select *Record* to record their version of the utterance, using a microphone plugged into the computer. After recording, by alternately playing *Template* and *Play*, learners can compare their version (*Play*) with the original (*Template*) and re-record their attempts until they are satisfied that they can produce an accurate imitation of the original. These student attempts can also be saved by the program for the teacher to access if desired

Figure 6.15 *Practice* activity window



This type of practice is useful in assisting learners to develop their sense of the intonation patterns of the language being learnt, as well as the pronunciation of individual words, and how these change when they are run together, as occurs in utterances in everyday colloquial speech. Language learners and teachers who have participated in trials of this package have commented on the usefulness of this feature for this purpose. Access to this feature by means of a message window to replace the original menu access was introduced in response to observed interactions of participants in the trials.

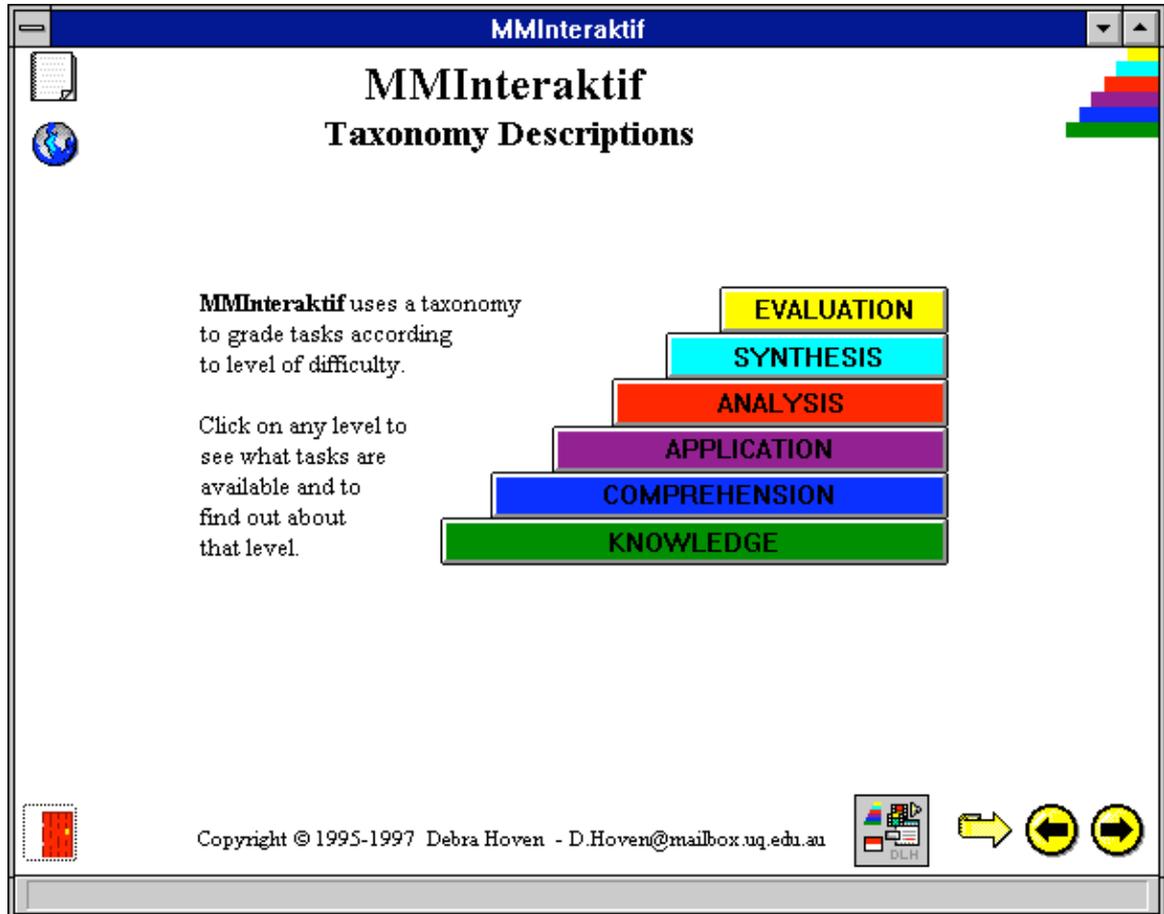
<i>Slow Play</i>	a selected utterance is played with a default pause of 1 second between each word, while maintaining the original contextual word stress and overall utterance intonation pattern
<i>Normal Play</i>	returns speed of play of the selected utterance to normal
<i>Follow Words</i>	(‘karaoke’ mode) plays selected utterance with moving highlight from word to word as played
<i>Find Word</i>	finds the closest section of text to the last section of media played and highlights this in the transcript – in sound files this is a single word, in laserdisc files it may be at the sentence level

6.3.2 MMInteraktif – the Taxonomy layer

Whereas the Browser underpins the Help and Feedback systems, the Taxonomy layer is the central framework of the lesson interface, incorporating information on, and practice in, language learning strategies that have been shown, as discussed in Chapter 4, to be beneficial for second language learning. Referring back to Figure 5.6 in the previous chapter representing the Design process for tasks based on authentic materials, the

Taxonomy layer has undergone several rounds of iterative trialling and modification with novice learners of both second language and computers to emerge in its current form.

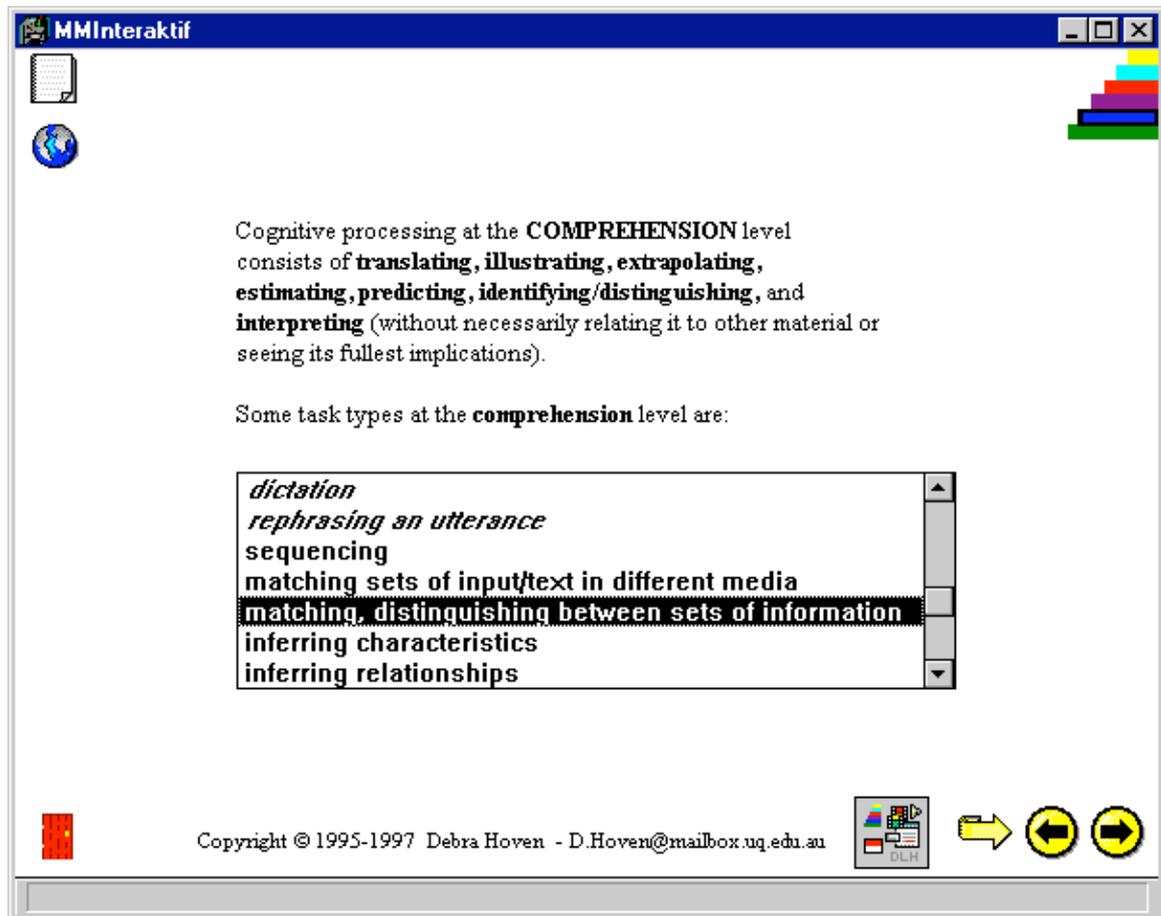
Figure 6.16 **Introductory Taxonomy screen**



In the Taxonomy layer, the cognitive taxonomy represents the navigation and selection framework, and in this function, tasks are accessed directly from the large taxonomy diagram. Thus, the first screen which confronts a learner who has chosen the Taxonomy layer is, as illustrated above in Figure 6.16, a diagrammatic representation of the various levels of cognitive demand, arranged according to the hierarchy described in detail in section 2.4.3.1 of Chapter 2, and also illustrated in that chapter in Figure 2.9. By selecting each of these levels, the learner finds more detailed information specific to that level, and a list of typical task types. In Figures 6.17a and b below, for example, two of

the levels are expanded to show both the description of that level and the associated task types.

Figure 6.17a Comprehension Level tasks



By then selecting any of the available task types at any level (represented by normal text), the learner can move to the first example of that task type and work on it. Task types that are not available in the CELL environment are printed in italics. When the learner has completed the task, or when she or he wants to move to the next task at that level, the arrow button at the bottom right of the screen takes them there. The left arrow button takes them back to the previous lesson at that level, while the curved left arrow takes them back to the previous screen. Should the learner wish to go elsewhere, all navigation icons and Help icons as illustrated are available. Learners can exit the

program, move to another layer, another task or another media clip, return to the first menu screen, or to the Overview page at any stage, by using the on-screen icons. In this way consistency of interface and navigation is maintained, while also allowing learners maximum control over their paths though the package as directed in Gordon's (1994) guidelines discussed in section 5.4.3.5 of the previous chapter.

Figure 6.17b Application Level tasks

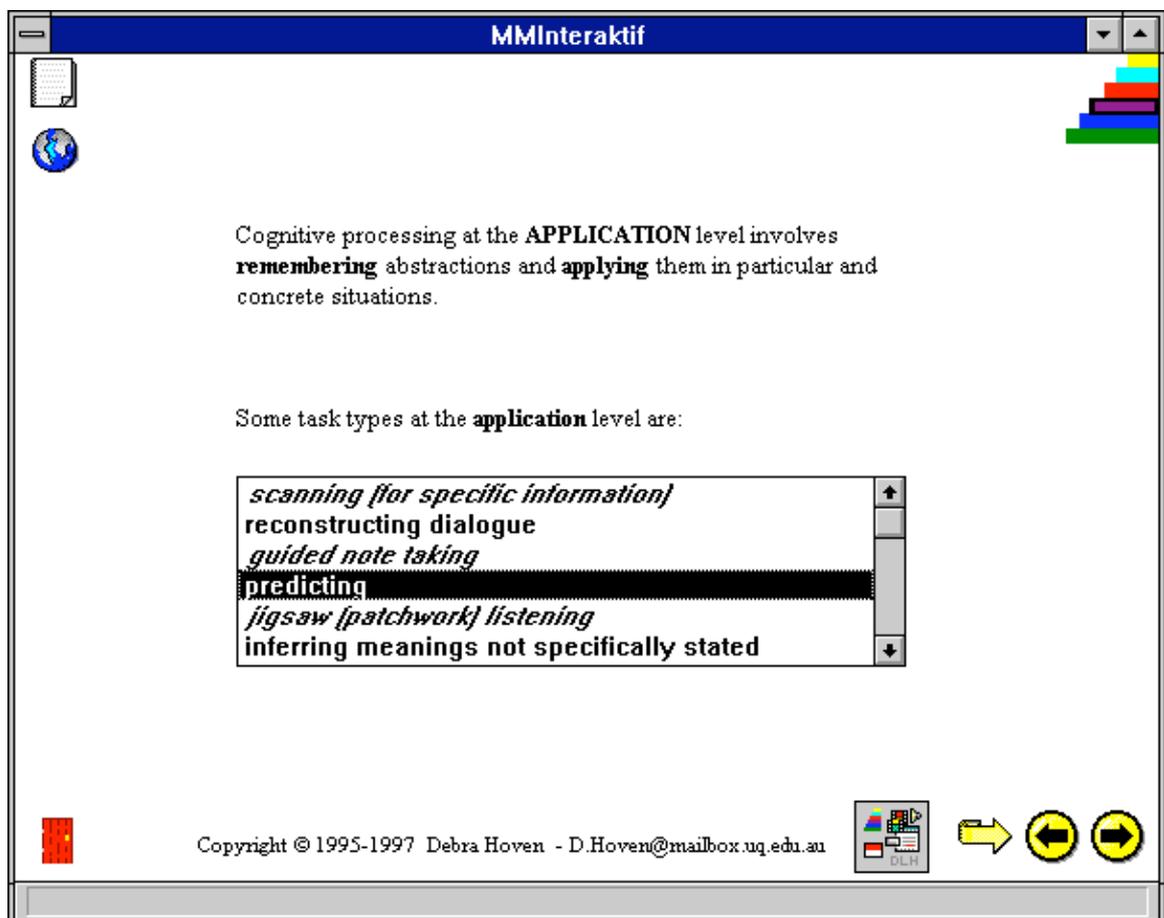
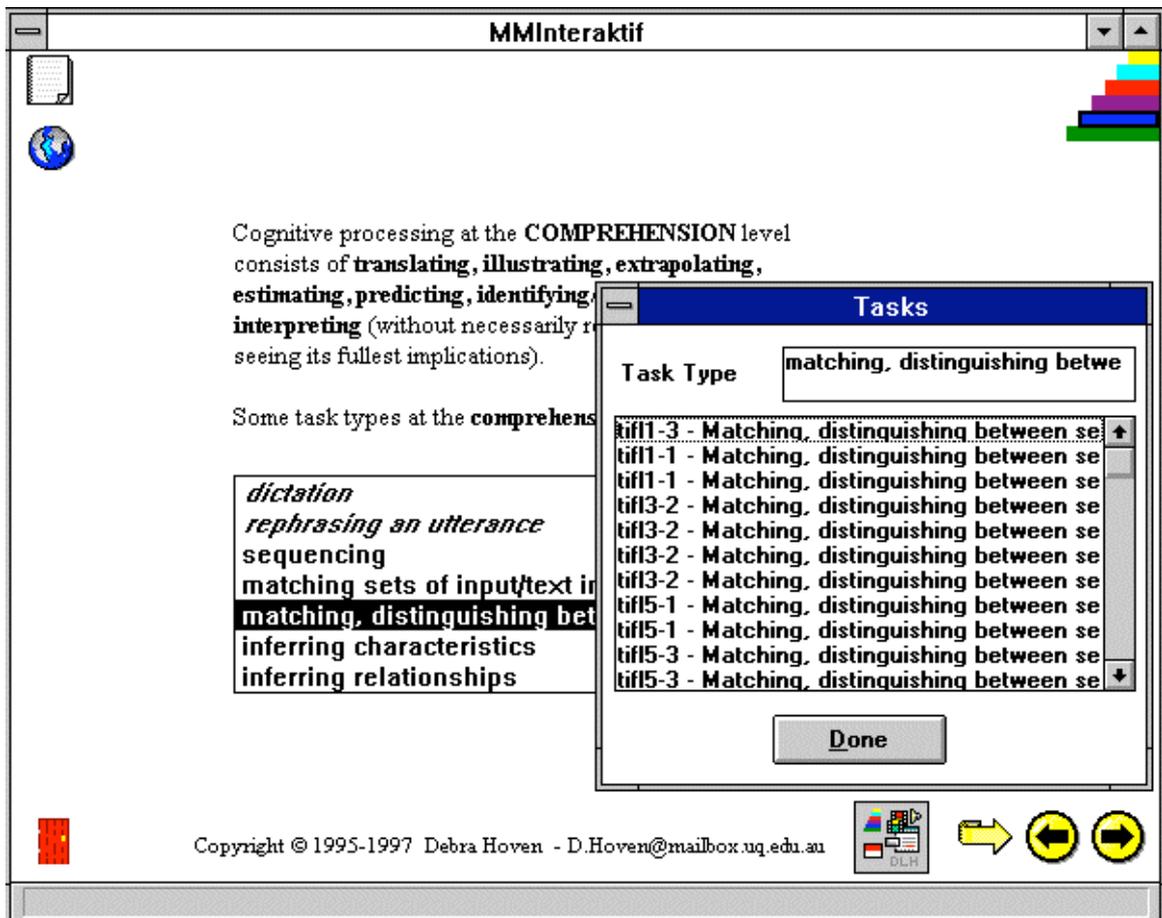


Figure 6.18 below illustrates what the learner sees on selecting a Comprehension Level task type – in this case, ‘matching, distinguishing between sets of information’. A message window appears, in which are listed all examples of that particular task type for which tasks exist in *MMInteraktif*, based on a variety of media texts.

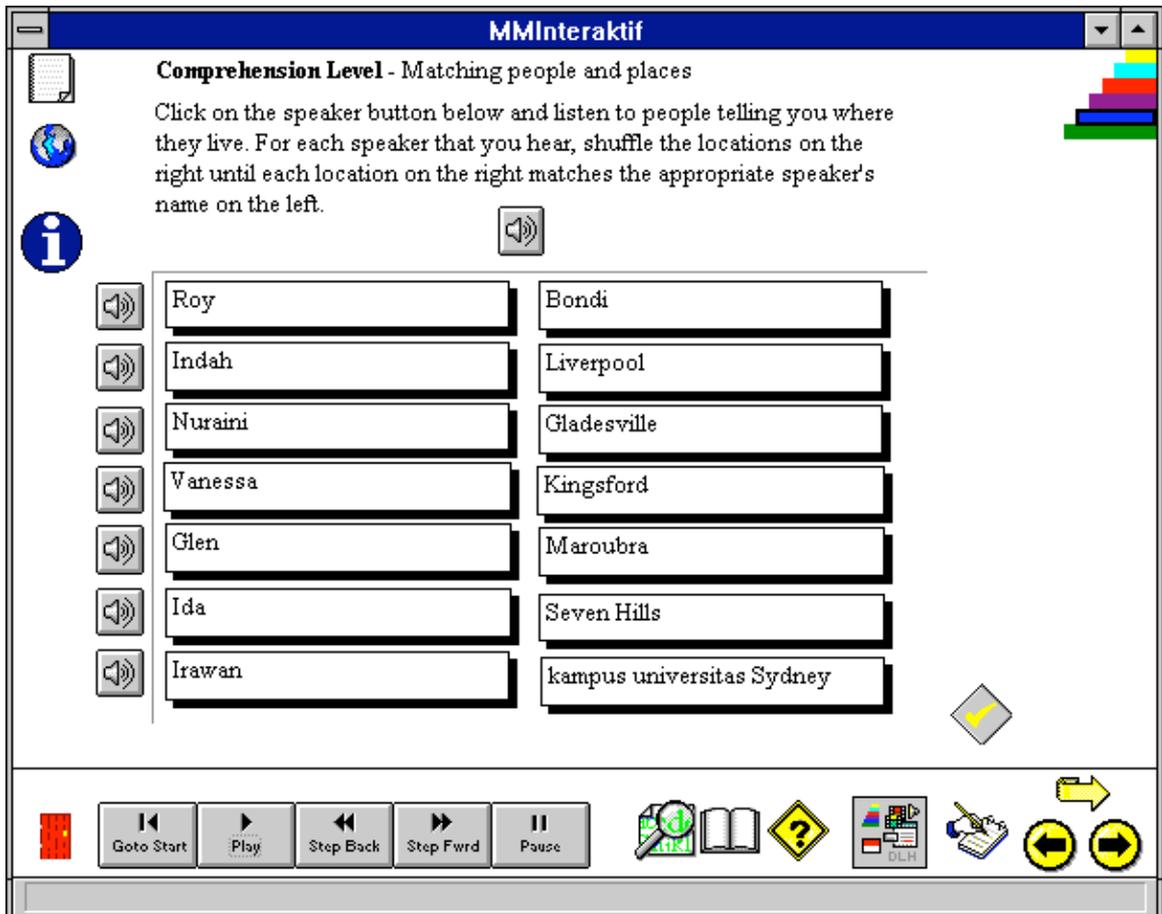
Figure 6.18 Comprehension Level Task Types



From here learners select one of these examples from which to start working. When they have made their selection, a task screen appears, as illustrated in Figure 6.19 below. At the top of the screen is the name of the level, and the type of task that is being displayed: ‘Comprehension Level – Matching people and places’. To the upper right of this lesson screen is the Taxonomy icon, which visually indicates to learners in which layer of the program they are, and also, by means of highlight around a colour bar in the icon, at which level of the Taxonomy this task type is located. By clicking on this icon, they can return to the explanatory screen for that Level of the Taxonomy. This icon therefore appears on all screens in the Taxonomy layer, both as a navigational aid, and to remind

learners at which level of the Taxonomy they are currently working. This navigational aid is consistent with the suggestion made by Meunier (1996) discussed earlier in section 3.4.3.1 of Chapter 3.

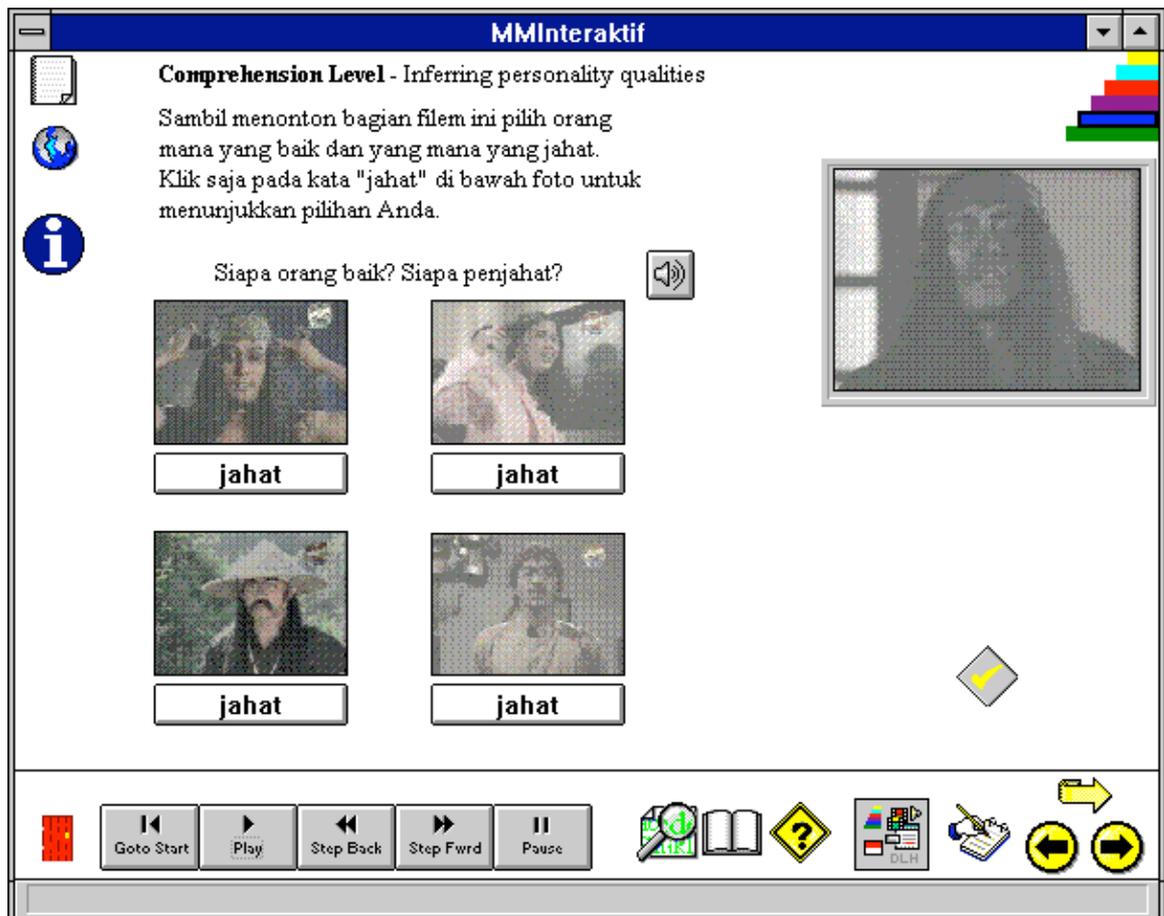
Figure 6.19 Comprehension Level task



Below the Level name and task type is the ‘instruction field’. In order to keep the screen uncluttered, as discussed in section 5.4.3.5, this is not delineated by any lines or boxes. The question field is immediately below the instructions, generally followed by a *play* icon in the form of a loudspeaker. Within video-based tasks, if learners select this icon, they can hear the audio text of the video clip without necessarily displaying the visual track, allowing them to concentrate on the words without visual distraction. This author regards the instructions of a task as being integral to the task, and the decision was

therefore made not to use any visual separators other than space between instructions and task (see also Chapter 5, Figure 5.12).

Figure 6.20 Video-based Comprehension Level task



The video window, and the answer evaluation and feedback field, however, are given visual separators as they have distinct roles to play. Thus the video window, in which the video clip associated with the task is displayed, is found on the right hand side of the screen, with a visually separating frame around it, as illustrated in Figure 6.20 above. Similarly, the answer and feedback fields are always displayed in a recessed frame towards the bottom of the main screen area. This screen layout is again consistent across all task and lesson templates.

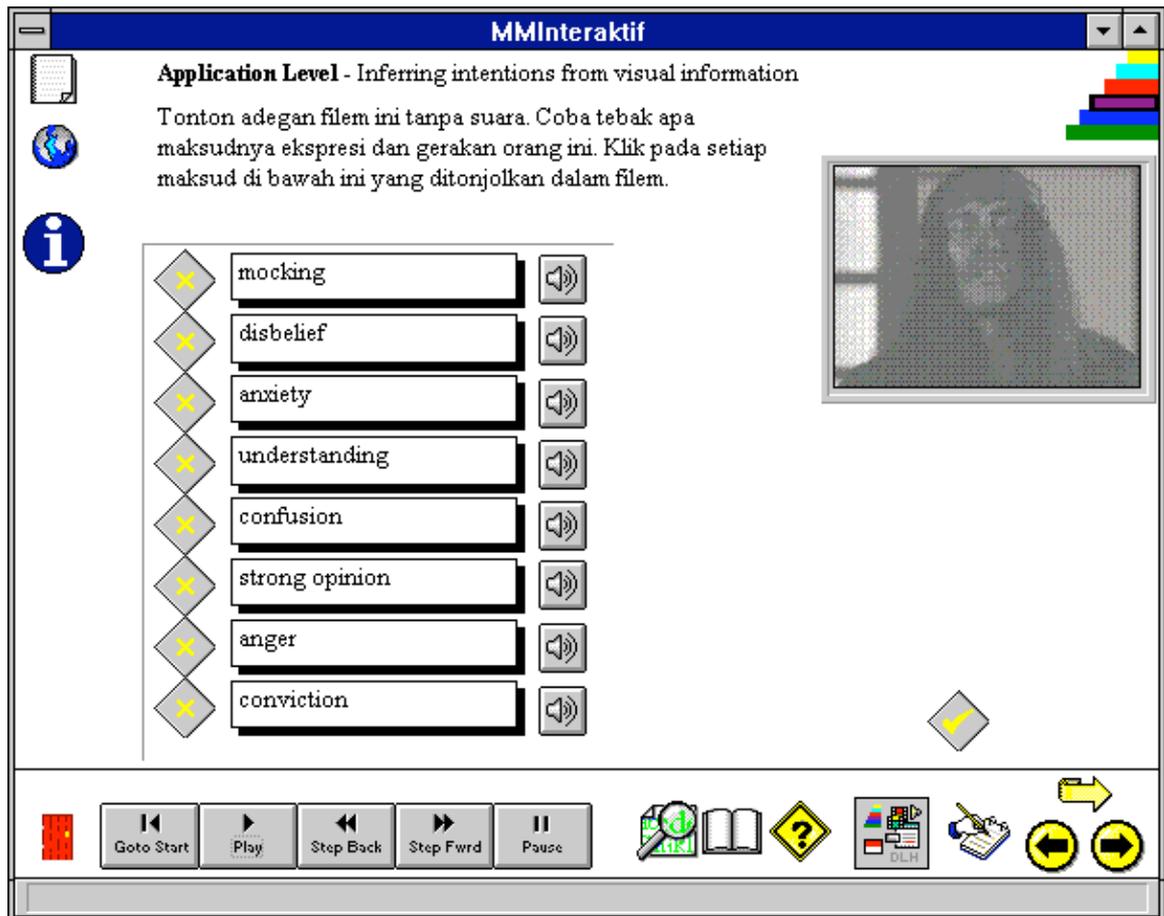
In this example, learners select their choice of answer by clicking on the labelled buttons under each picture. This toggles the buttons between two personality qualities: *jahat* (wicked) and *baik* (good). When learners are satisfied with their selections, they click on the yellow check mark button, which then changes the normal text of correct answers on the buttons under the pictures to grey text. Learners are also able to make reselections of their answer choices after they have checked their answers, to avoid anxiety and reduction in learner motivation. All tasks in *MMInteraktif* are deliberately designed without ‘score-keeping’ and with learner flexibility to change answers in keeping with the findings discussed in section 3.5.1 of Chapter 3, that anxiety can be debilitating and result in lack of motivation.

Learners can replay the audio track as many times as necessary to answer the question, by clicking on the audio icon. They can also replay the video clip as many times as they like, by clicking on the still picture in the video window. The inclusion of this freedom for multiple replay is based on one of the oft-cited advantages of the use of computers: the capacity for learners to work at their own pace discussed in section 5.2.2 of Chapter 5 and elsewhere.

The video window can be enlarged to full-screen size with a double mouse click within the window. This is particularly useful when the question relates to visual information, as in the Comprehension Level task: ‘Inferring intentions from visual information’ illustrated in Figure 6.21 below, where, in order to answer the question correctly, learners need to study more carefully the expressions and gestures of, and proximity between, participants. This is easier to do when they can view the video in a full-screen frame.

Double-clicking on the full-screen window brings it back to the original size. This facility was included to make provision for detailed learner observation of the co-verbal (Kellerman, 1992) features of language discussed in section 2.3.1 of Chapter 2.

Figure 6.21 **Application Level task: Inferring intentions from visual information**



The cassette controls which are always available at the bottom of the screen allow learners to play the media clip under their own control. These controls are divided visually from the lesson screen by both colour and a line, in keeping with Gordon's (1994) guidelines, as they perform functions which are conceptually different from those of controls on the lesson screen. These control buttons provide learners with the facility to zero in on particular sections of the video text, or utterances within it. The fineness of

resolution that is provided by these controls depends on the level of detail the author of the lessons has provided in the indexing of the media clips. In these examples, because of the format of the media, the video text has been indexed to the level of the sentence or utterance. In audio-only texts it is possible to index segments as small as words or morphemes. With laserdiscs, the finest level of resolution possible is video frames for constant angular velocity (CAV) discs, and seconds for constant linear velocity (CLV) discs (see Appendix B for further information on the difference between these formats).

Other icons located in the visually-separated icon bar below the lesson screen are the *Help* and navigation buttons. From left to right, these are: the ‘surrounding context’ icon, represented by a magnifying glass over a page; the grammar help, indicated by an open book; program and navigational information, represented by a question mark in a yellow diamond; the *MMInteraktif* or Browser icon; the curved ‘previous screen’ arrow icon; the left and right arrows mentioned above for moving to the previous and next lessons respectively. The open door to the far left represents the means of exiting the package. By clicking on the magnifying glass icon, learners can get more context for the media clip on which a lesson is based, in the form of playing the clip together with the utterances immediately before and after it. The open book icon provides learners with access to the grammar notes that can be searched by topic, as in the Browser layer.

The question mark icon takes learners to the same Windows help files as in the Browser, with information on the functions of various icons, the structure of the program, and how to navigate through the various layers of *MMInteraktif*. The *MMInteraktif* or Browser icon allows learners to change to the Browser layer, where the open screen shows the

transcript for the whole media text in which the task-related segment is located. The segment of the text on which the task is based will appear highlighted in the transcript.

The curved arrow icon brings learners to the previous screen opened, as against the left straight arrow, which moves learners to the previous task, and the right arrow which takes them to the next task at that level. As these arrows can be selected at any time, learners are free to review the previous task, or go on to the next one if they do not wish to work on the current task. As they are located in this visually separate area, these icons are never obscured by other screens, even when the learner selects full-screen video.

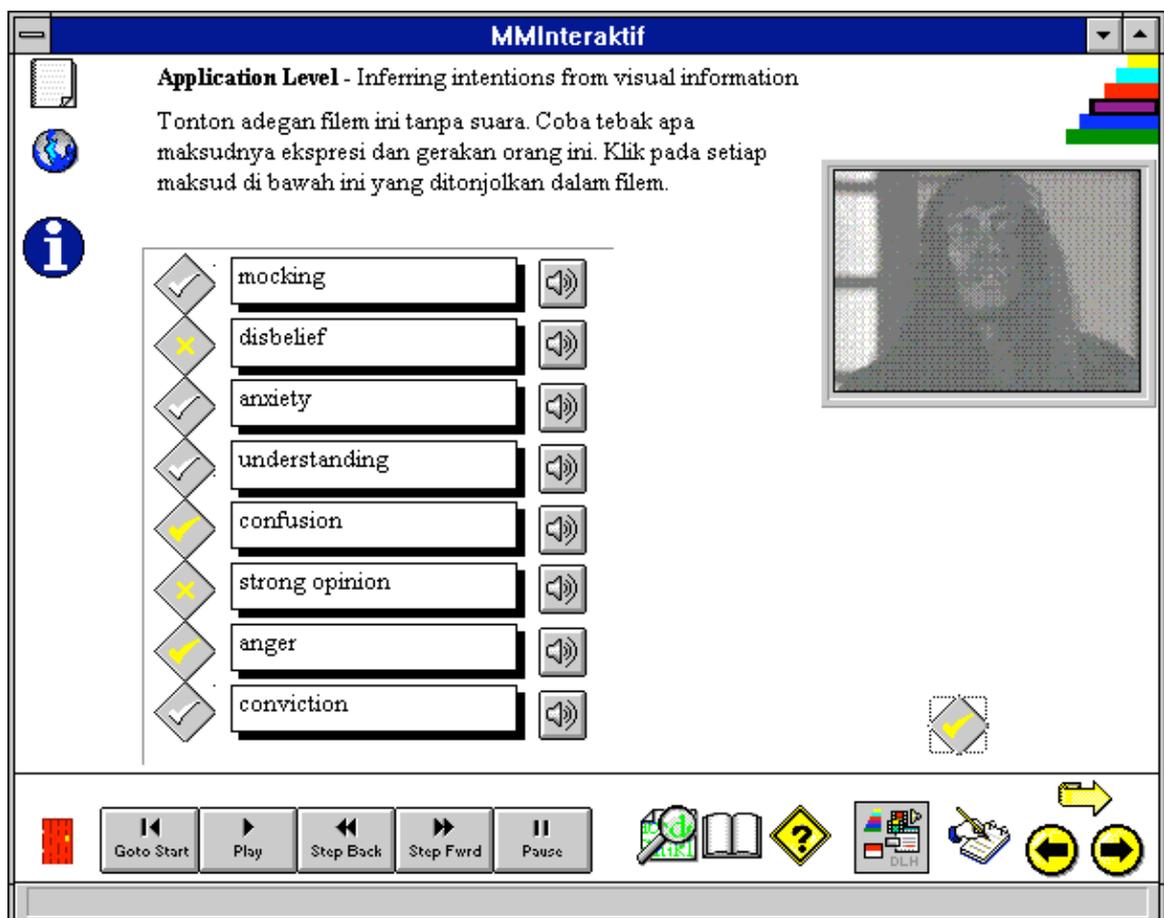
The Application Level task illustrated in Figure 6.21 above also demonstrates a different kind of task template or method of representing the activity to learners. This template, while still essentially in a multiple choice format, allows learners to select more than one answer as being correct. In addition, in content, it is focussing on the visual, and often culturally-specific paralinguistic features of language: expressions, gestures, proxemics and kinesics. This task therefore draws for content on two of the features of the Browser - the *Visual* transcript and *Classifications*.

To complete this task, learners firstly read the instructions at the top of the screen, and then the list of ‘intentions’, or visual classifiers, in the question field on the left of the screen. Their task is to select from the question field those classifiers which they feel are realised through the body language of participants in the video clip. They do this by playing the silent or muted video clip in the video window on the right of the screen, and by making their selections from the question field by clicking on the check marks to the left of their chosen ‘intentions’. As more than one character is visible, and emotions and

intentions change, within even a short clip, more than one of the intentions or classifiers will generally be correct.

When they have completed the task to the best of their ability, learners check their answers by clicking on the yellow check mark to the right of the question field. Those visual classifiers that are not appropriate retain their original colours to allow learners to see their level of success on the first attempt. This is illustrated in Figure 6.22 below.

Figure 6.22 Illustration of toggle button answer checking



To get further information and feedback on any of the classifiers and how these are realised through body language, learners click on the *play* (loudspeaker) icons to the

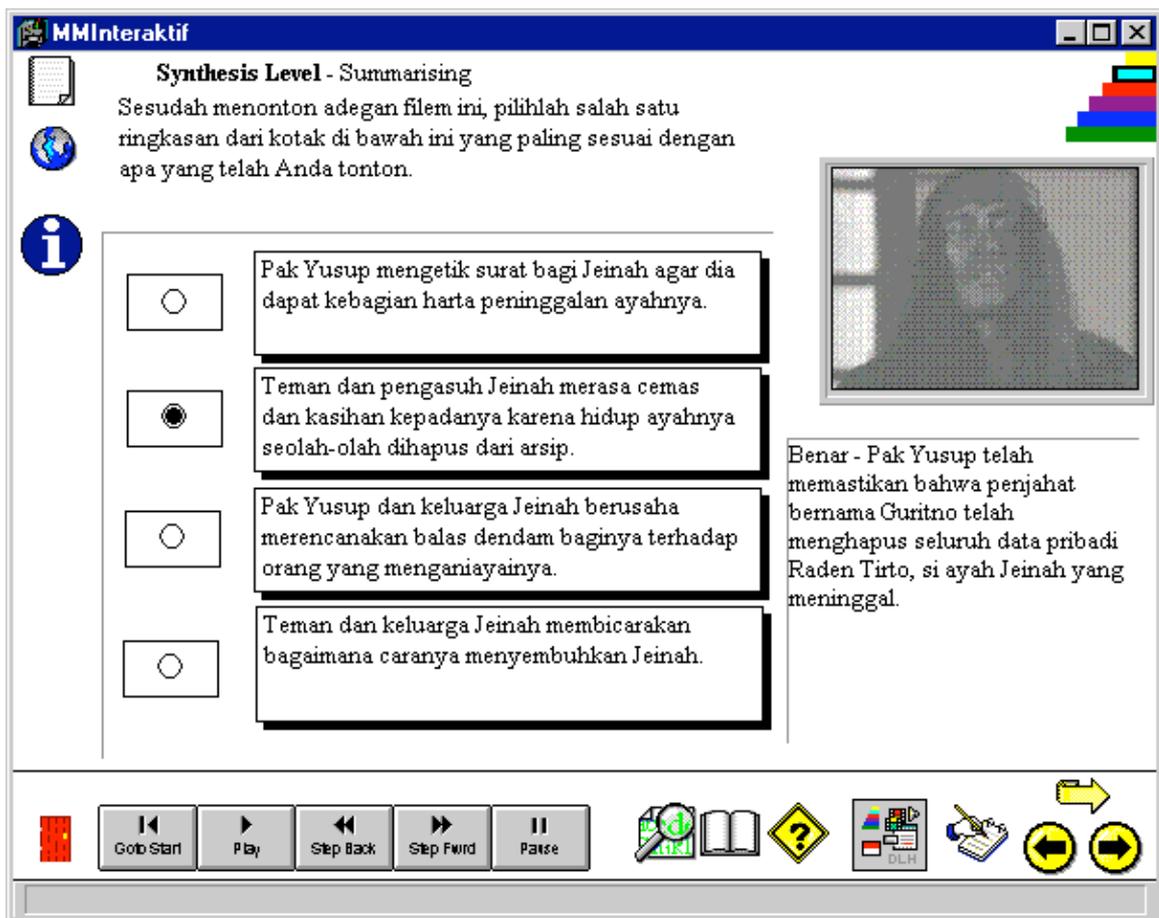
right of each of the lines in the question box. This plays the video clip associated with the classifier on that line. Learners can see further information on these by going in to the Browser at this point. The segment that has just been played is highlighted. By going into the *Visual* transcript learners can see the list of classifications of intentions in context and search for and play other instances of the same visual classification conveyed by different participants or in other contexts.

In keeping with principles of learner-centred design, discussed in sections 5.3.4, 5.3.6.4 and 5.4.3.3, viewing this play facility in the video window is enabled whether learners have made an attempt to do the task or not. However, as records are kept of learners' choices and interactions with the package, both teachers and learners have access to an analysis of learner actions, including the number of times a learner goes directly to *Help* without attempting to work on the task. These analyses assist teachers in advising learners of ways to make their sessions with the package more productive, and also in diagnosing learner problems either with the tasks, or with their approach to learning. By providing learners with this analysis, the package can also assist learners to become more aware of the learning strategies they are using on a consistent basis, as well as providing lesson designers with crucial feedback. Access to this analysis is organised by learners in consultation with their teachers.

The task template below in Figure 6.23 is designed to suit learners whose learning style is more kinesis, or who are more visually and spatially oriented, by incorporating drag-and-drop movement, as suggested by Sanders (1987) in section 5.4.3.5 of the previous chapter. To complete this task, learners are firstly provided with instructions in the field at the top of the screen, to read carefully the list of possible summary sentences in the

question field on the left side of the screen. Learners play the associated video clip by clicking in the video window on the right of the screen. They then choose from the question field the summary which they feel best encapsulates the content of the video segment. This is done by clicking on the check box to the left of the preferred summary.

Figure 6.23 Synthesis Level task - Summarising



This task is cognitively demanding at a number of levels. Firstly, learners need to comprehend the meaning and gist of each of the summaries provided. Secondly, they must be able to make certain inferences about the gist of the segment played and its relation to the rest of the story. Thirdly, they need to draw some conclusions about the appropriateness of each of the summaries in order to determine the best one for this

question. This is the reason for locating this task at the Synthesis Level. It is therefore up to the task designer here to ensure that the summary sentences in the question field are sufficiently complex and similar to each other that it is necessary for learners to function at the Synthesis Level of cognitive processing to make their discriminations and select the appropriate answer. In this way, as discussed in the previous chapter, a task that is high in cognitive demand can be presented using a relatively simple presentation mechanism: the demand lies in the task content, rather than the task execution.

A variation of the 'shuffle' template used in Figure 6.19 is the Comprehension Level task, 'Reordering utterances in a text', illustrated in Figure 6.24 below.

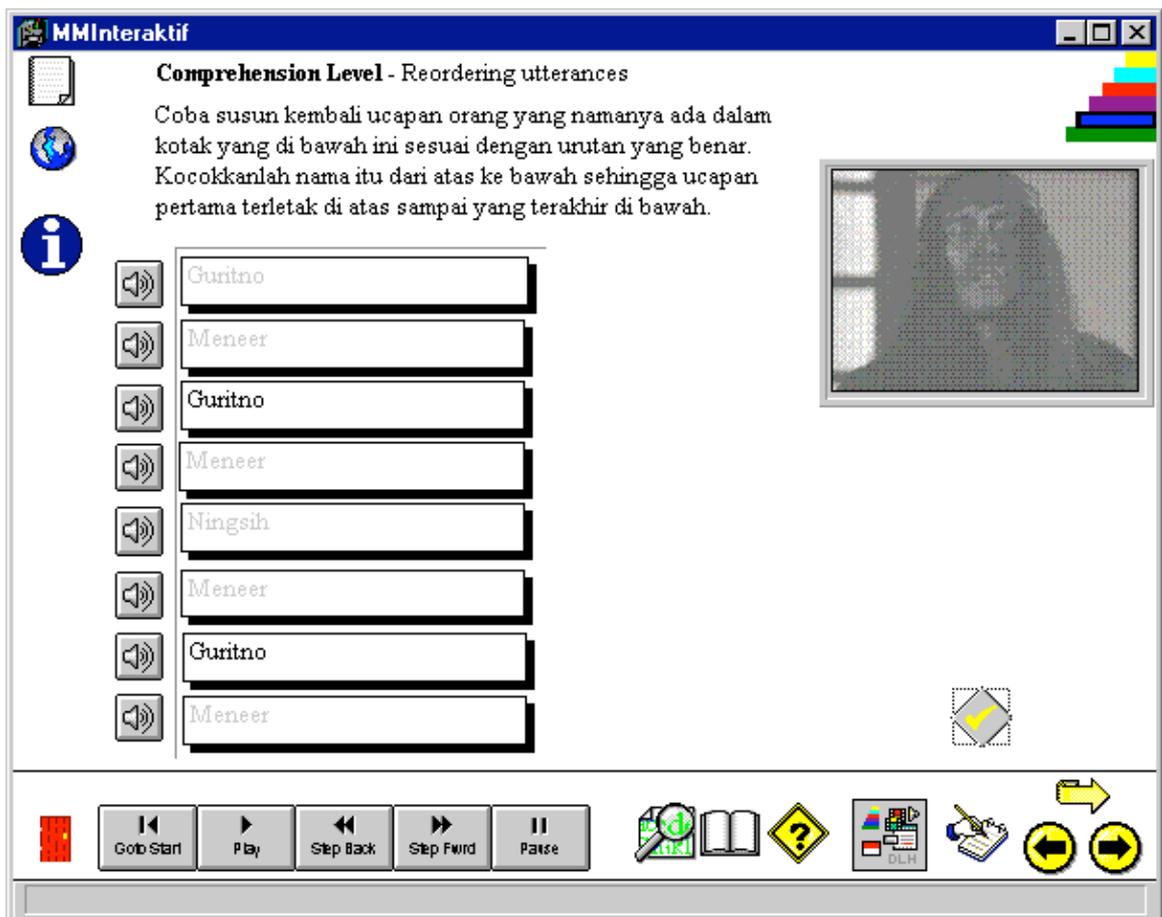
Figure 6.24 Comprehension Level task: Reordering utterances in a text



In this task, learners can either click on the still picture in the video window to the right of the screen to play the associated video clip, or use the individual *Play* buttons. They then reorder the utterances in the question field by shuffling them, using the drag-and-drop function featured in Figure 6.19. By clicking on the individual *Play* icons, learners can play that utterance only. Learners can also go to the transcript in the Browser layer to see which utterance is highlighted. In this way, the provision is made to enable learners who have a less well-developed auditory memory to complete the task successfully.

When learners wish to check their answers, they click on the yellow check mark icon to the lower right of the question field. The utterances that are out of order remain in black text, while correctly positioned utterances are greyed out, to allow learners to see their level of success on the first attempt. This is illustrated in Figure 6.25 below. They can then reshuffle those utterances which are black and check their answers again. These actions can be repeated as many times as necessary for learners to find the correct order.

Figure 6.25 Comprehension Level task: Reordering utterances in a text



Details of other task templates that can be used to cater for individual differences in learners with regard to preferred mode of activity in learning, and preferred channels of reception, are given in section 6.3.3 on the Lesson Sequences layer.

6.3.2.1 Some points on Help and feedback in the Taxonomy and Lesson Sequence layers

As teaching rather than testing is the focus of these tasks, no restriction is placed on the number of times a learner can listen to, or view, the media text. However, keeping a record of the number of times that listeners replay parts of the text, and which parts of the text are replayed, is a necessary part of the feedback stage for both the learner and

the teacher/task designer. This information can be used by learners and their teachers to identify which parts of the text or the task are causing difficulty, to enable learners subsequently to seek further help either from a teacher, or within the program. The teacher, for example, can analyse the text in terms of the features identified in the listening theory section (Chapter 2, sections 2.4.1-2), and advise learners on ways to adjust the difficulty of the task to a level more appropriate to their needs. This advice can help learners choose tasks that will help them master the skills which are causing them problems. Within the feedback windows of various tasks, learners also have access to a range of advice of a kind more tailored to the tasks or activities on which they are working.

In *MMInteraktif*, this advice can also consist of information on specific grammar points, contained in the Grammar Reference Notes, and learning strategies related to the current task, access to the highlighted segment of the complete audio or video transcript relating to that task, and the facility to play the surrounding context of the text related to that task. Task-specific feedback for both correct and incorrect responses is made available to enable learners to confirm their reasons for selecting the answer they did, to understand the context more fully, and to check on their progress. Thus, at each point when learners ask for help or feedback, the program allows them to:

- (1) go on to the next or previous question in a lesson sequence;
- (2) go on to another question of the same type, or another type at the same taxonomic level;
- (3) replay the question-specific text as many times as they like;
- (4) access the justification for the correct answer (where available);

- (5) access the justification for an incorrect answer being incorrect (where available);
- (6) play the section of the text specific to answering the current question;
- (7) play the broader context of the question text with the utterances both before and after the selected section;
- (8) see the transcript of the text appropriate to answering the current question;
- (9) access an on-line reference grammar with a built-in search facility;
- (10) access the taxonomic descriptions;
- (11) access the Browser;
- (12) access navigation assistance indicating where they are in the program;
- (13) access a record of their progress so far, in the form of number of attempts, number of requests for replay, number of requests for different forms of help, number of correct answers at first attempt, and compilation of questions attempted classified by taxonomic level;
- (14) access help on using the tasks and lessons in the Taxonomy and Lesson Sequence layers
- (15) access the classification of learning strategies and associated tasks;
- (16) makes notes to themselves about points or problems in the lessons and tasks in their own *notebook* which they can print out and take away, or pass on to the teacher in printed or e-mail form;
- (17) exit the package.

Learners are able to check their answers after each question is completed, or even without having to respond, if they so desire. From these actions of learners, information on the frequency of requests for replays, help, or answers is collected. Feedback on the appropriateness of the response and help, including an indication of the appropriate parts

of the text to be replayed, is also available to learners at this stage, in keeping with Cryle & Lian (1985) and Joy *et al.* (1983). Thus, all information collected by the program is available to both the learners, and the teacher/designer of the tasks.

6.3.3 *MMInteraktif* – the Lesson Sequences layer

This description of the functionality and flow of control through the Lesson Sequences layer will be based on one representative sequence of tasks, to illustrate a typical learner path through a pedagogically ordered sequence. As mentioned earlier, all of the tasks in the package are shared in common across the Taxonomy layer and the Lesson Sequences. The only difference between the two layers is in the order of presentation and control over it. The Lesson Sequences layer is designed as the most structured of all the layers of *MMInteraktif*. It would typically be selected by novice computer users, by the most teacher- or other-dependent learners, or by learners who are the least self-confident in their use of the language, or in their understanding of how to develop their own language learning.

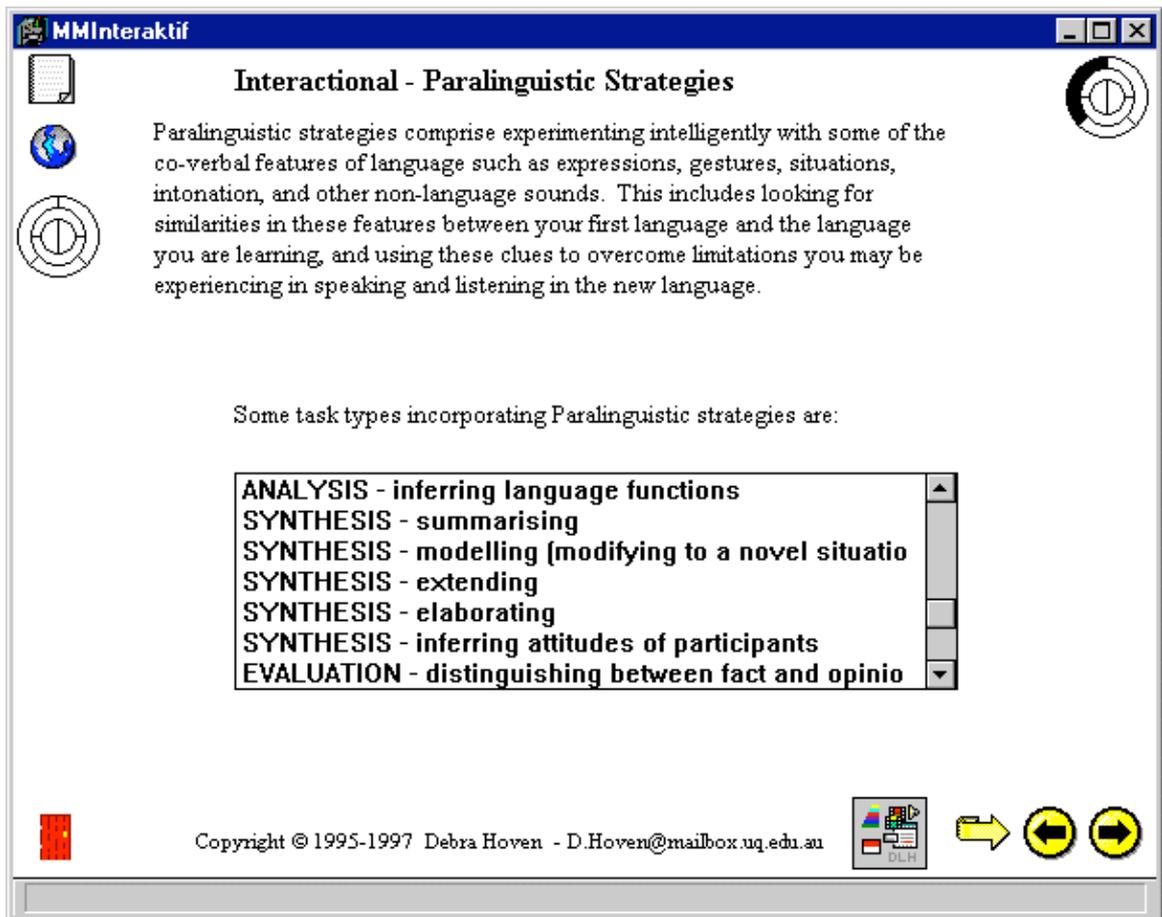
As with other paths through the package, the opening screen for the Lesson Sequences Layer is the ‘Introduction Page’ (Figure 6.4a) which requests the learner’s name, student number, and level of language study for record keeping purposes. From the Introduction Page, learners move to the Overview Page, at which point they select Lesson Sequences. From here they can choose to go to the Media Guide which details the available media by type of content, as illustrated in Figure 6.5a earlier, and the location of each of the media texts is indicated, when, for example, these require separate laserdiscs or CD-ROMs. This menu is in hypertext format, in that learners can call up an information window on each of the items in the Media Guide by clicking on it. From here, they can also move

directly to the lesson sequences associated with the media text of their choice. In the case of larger media texts such as films, lessons form units based on successive scenes of the film.

From the Media Guide, learners can also select the information on learning strategies on the 'About Learning Strategies' screen. This is another hypertext screen similar to that for the Taxonomy. From the diagrammatic representation of the categories of strategies, learners can view more detailed sub-classifications of each category by clicking on it. From the sub-classification window which then appears, learners can subsequently access, again by a mouse click, a list of the tasks or lessons that are representative of, and help develop, the learning strategies in that sub-classification, as illustrated in Figure 6.26 below.

When learners select a media type and segment, they are taken to the first lesson screen for that media clip. In the Lesson Sequences layer, 'tasks' are called 'lessons', because they are presented in a learning sequence, as they might be in a coursebook or a classroom. In the sequence of Figures below (Figures 6.27 to 6.40), one such learning sequence is illustrated, showing the learning strategies being practised, the progressive development of skills, and the recycling of language and content. These Lesson Sequences are also based on sequential segments or scenes from the whole film, building up the context a little more each lesson. By breaking up the film into scenes in this way, authentic language can be made more manageable for learners, as discussed earlier in sections 1.5.2.2 and 1.5.2.4 of Chapter 1.

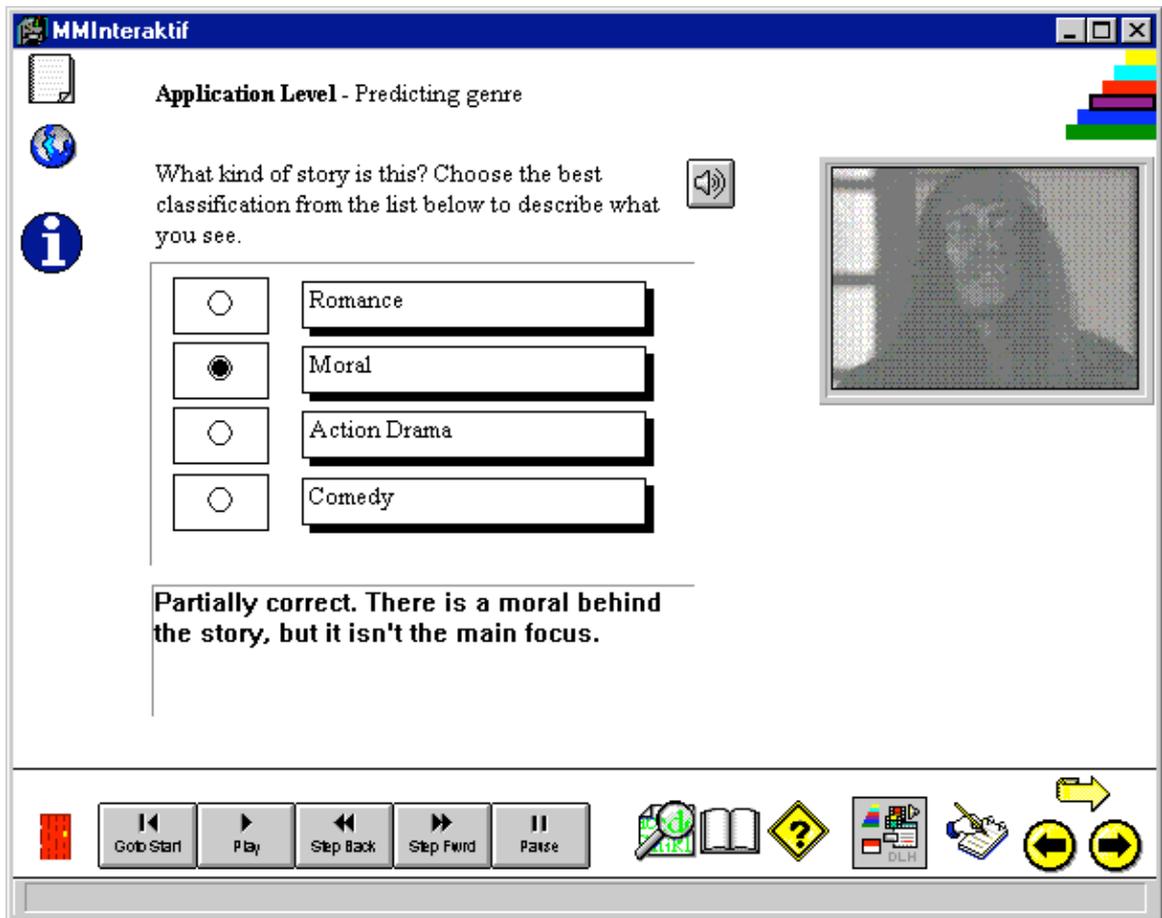
Figure 6.26 **Learning Strategies screen showing tasks in a sub-classification**



Many critical learning strategies, particularly the metacognitive (Metalinguistic) and cognitive (Processing) ones, are also practised through the use of the various *Help* mechanisms in all layers of *MMInteraktif*. These are detailed for learners in the Windows *Help* file, while the descriptions of *Help* icons are provided on the Navigation *Help* screen (Figure 6.5b) accessed from the ‘About *MMInteraktif*’ screen as described earlier in section 6.3. The full documentation of the *Help* features of the Browser layer of *MMInteraktif* are available in Appendix C. As can be seen in the Figures below, the user interface mechanisms for accessing *Help* in the Lesson Sequences layer are consistent with those in the Taxonomy layer.

Figure 6.27	Lesson 1	Taxonomy Level:	Application
		Task type:	Predicting genre
		Strategies:	• Predicting

- Inferring
- Using visual clues



Lesson 1 as illustrated in Figure 6.27 is designed as an introductory lesson to focus learners' attention on the type of film they are about to work on. By clicking on the video window to the right of the screen, the first scene of the film, an Indonesian martial arts film is played without sound. The sound is muted in this first lesson for two reasons. Firstly this technique encourages learners to use the visual information to make a general prediction about the genre of the film – the first scene shows quite a graphic martial arts encounter including most of the main protagonists. Secondly, it aims to get learners used to viewing without sound right from the beginning, thereby focussing more of their attention on the visual information which becomes the major aim in some of the later

lessons. For learners with less visual learning styles, this is important as a training mechanism, as discussed earlier in Chapter 3, section 3.6, to move them out of their ‘comfort zones’ to expand their repertoires of skills.

On the upper left of the screen in the Lesson Sequences layer, below the lesson book, are two icons: a globe and a blue information symbol. The globe takes learners back to the *MMInteraktif* Overview page, so that at any time they can refer back to information on *Help*, navigation, learning strategies, the Taxonomy, or the Media Guide. The information icon brings learners to a screen of snapshots of various characters who will appear in the film they will see. These snapshots are hypermedia links to further information screens on the various individual characters. These background character sketches can be reached at any time during the lessons, to assist learners in answering the questions and doing the lessons, by reducing the memory load of having to remember all the different characters. Another new feature here is the learner notebook to the right of the icon line at the bottom of the screen. By clicking on this icon, learners open a notebook in which they can write notes to themselves about new things they have learnt, new vocabulary or even compose messages to the teacher. These notes can be printed out or saved to floppy disk for learners to take away with them.

The instructions for this first lesson are in English, again, to help ease learners into the structure and functioning of the lessons. In predicting the genre of the film, learners are given a list of four choices presented in the answer box in the middle of the screen, from which they select one. Selections are made by clicking on the radio button to the left of the preferred answer. Clicking on an answer selection triggers a feedback response in the feedback window below the answer box. This feedback is meant both to inform learners

of the appropriateness of their answers and, in the case of an incorrect answer, to guide them in selecting a more appropriate answer through the use of prompting statements or questions.

Figure 6.28 **Lesson 2** **Taxonomy level: Comprehension**
 Task type: Matching pictures with names of participants
 Strategies: • Predicting
 • Listening for key words (names)
 • Inferring



(See Appendix D for a full listing of all learning strategies associated with each of the tasks in the Taxonomy)

At the top of the screen is the Taxonomy level and the task type, in the case of Figure 6.28, Comprehension Level and Inferring names of people respectively. Below this is the Instruction field, while below this again are 3 still pictures of people, below each of which is an answer box. Learners play the appropriate video segments in which the participants pictured identify themselves or are identified, by clicking on the video window to the right. Below the pictures is a list of four names, though not all are given names. Learners select the name or names appropriate for each participant in the videos viewed by clicking on the name in the list, and then dragging it to the answer box below the picture of the person to whom they think it corresponds. They can then check their answers by clicking on the yellow check mark icon to the right of the list of names. If the names are correct, they will be greyed out. As with other tasks, learners can make as many attempts and answer checks as they need to.

Learners are also provided with an *play* icon to the right of the instruction field which, when clicked, plays the single utterances which contain the names of the participants. This is to enable those learners with stronger audio preferences to focus more clearly on the audio information, without the possible distraction of the visual medium. If learners are wrong the first time, they can repeat the activity to correct their answers. If they require additional Help, access to the Browser, containing the transcript with the lesson-specific text highlighted, is always available.

Incorporated in this lesson, therefore, is a number of learning strategies: the memory strategies of grouping, associating, using imagery, and using physical response; cognitive strategies such as recognising and using formulas and patterns, and reasoning deductively; the compensation strategies of using linguistic and contextual clues; and the

paralinguistic strategies of using clues from gestures and expressions, and intonation. In addition, whenever learners use any of the Help features, they are using the various metalinguistic strategies as outlined and classified in Appendix D.

In lesson 3 illustrated below in Figure 6.29, the same basic template is used as for Lesson 2. The major linguistic focus is lexical discrimination and development, while other learning strategies are simultaneously practised, as listed above. As learners have already established a schema for the story and the roles of participants, it is now possible to use a stronger linguistic focus here, as the earlier lessons have developed a good contextual and semantic knowledge base. To recycle and reinforce some of these established understandings, this lesson uses still pictures of 2 of the same characters as in Lesson 2, though the focus is different.

Learners are instructed firstly to read the list of adjectives or descriptive words in the question field in the middle of the screen, and consider which of these could be used to describe the characters of the participants shown in the still pictures. They then click on the still pictures to play in the video window to the right some selections from the film which they have already seen, which highlight some of the characteristics listed in the question field. When they have decided which of these is appropriate for each of the participants, they match the words from the question field with the corresponding participants, using the drag-and-drop technique to move the words to the answer field below each of the still pictures.

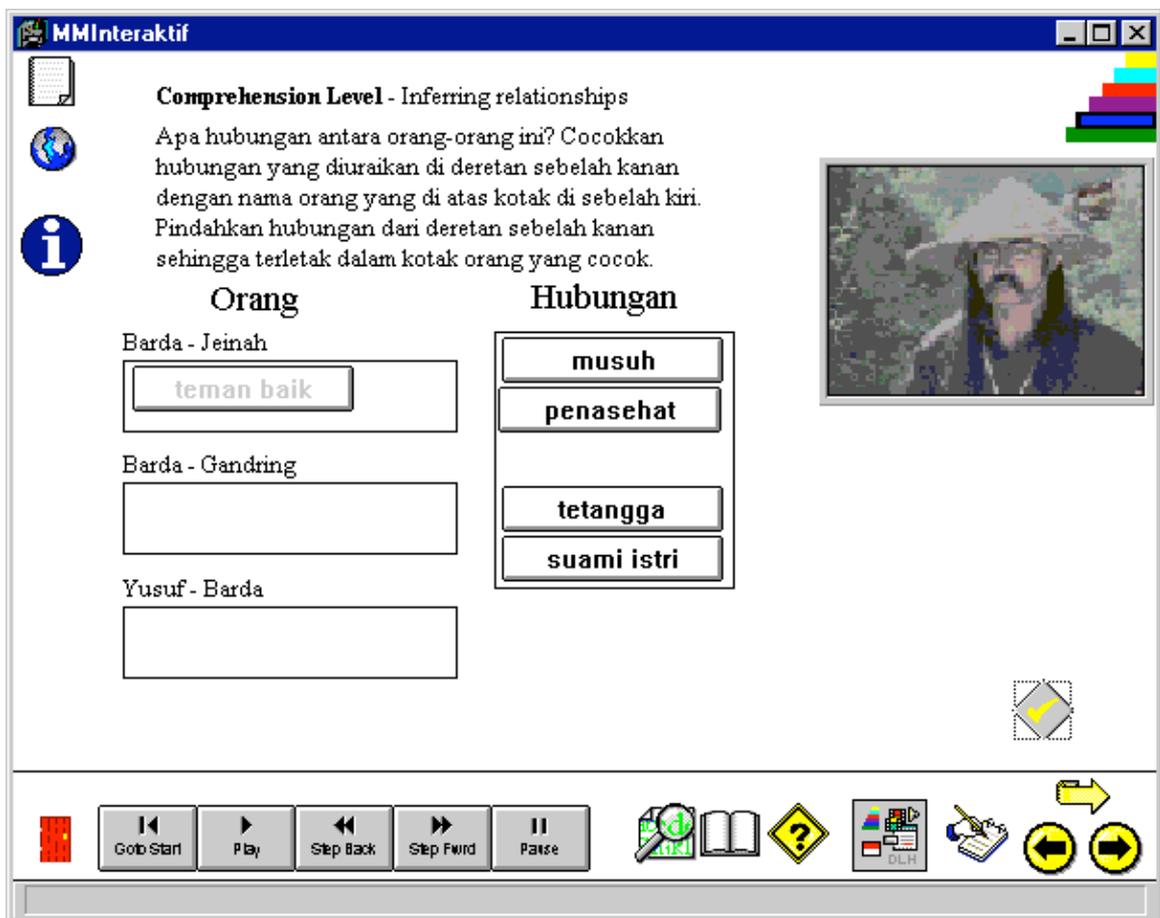
<p>Figure 6.29 Lesson 3</p>	<p>Taxonomy level: Task type: Strategies: All of the major categories, (including social) but especially cognitive strategies: compensation strategies: paralinguistic strategies:</p>	<p>Comprehension Inferring characteristics of participants</p> <ul style="list-style-type: none"> • reasoning deductively • analysing linguistic expressions • using linguistic clues • using contextual clues • using expressions, gestures & intonation • using other non-linguistic clues
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When the check button is clicked, those adjectives or descriptive words which are appropriately placed are greyed out, while the inappropriate ones remain displayed as

black text. Learners can access help for this lesson by replaying the video clips, or by going to the Browser layer and using the *hotwords* icon to look up selected word glosses and information (see Figure 6.8, the *Explore* menu in section 6.3.1).

<p>Figure 6.30</p>	<p>Lesson 4</p>	<p>Taxonomy level: Task type: Strategies: compensation strategies: paralinguistic strategies:</p>	<p>Comprehension Inferring relationships</p> <ul style="list-style-type: none"> • Inferring • using linguistic clues • using contextual clues • using expressions, gestures & intonation • using other non-linguistic clues
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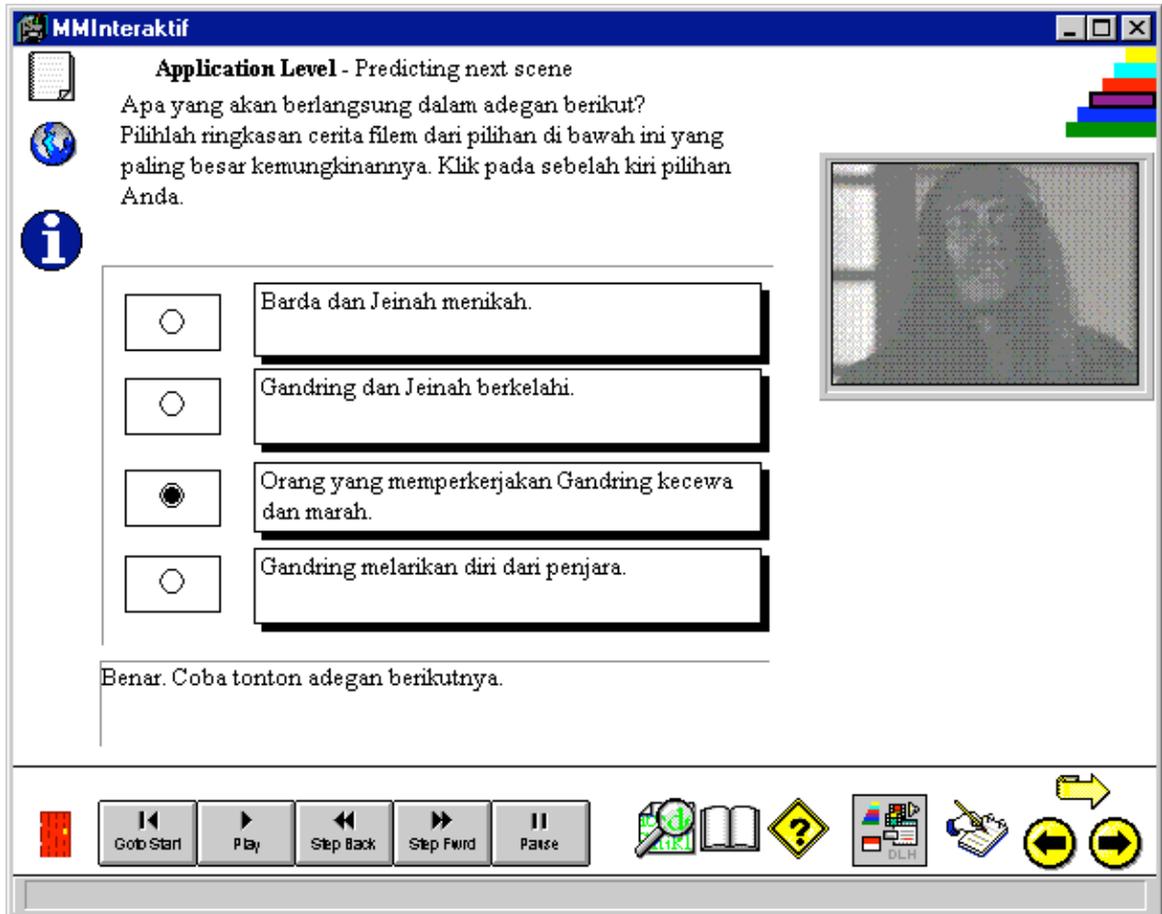


This lesson again encourages learners to employ the paralinguistic and compensation strategies as listed above in order to infer the nature of the relationships between various

pairs of participants in the film. Once again, this helps learners establish a more complete schema, including attention to visually-conveyed information, for the action that takes place in subsequent scenes of the film. Learners are instructed to watch the scene in the video window to the right of the screen and decide the nature of the relationship between the 3 pairs of participants listed on the left of the screen. Under each pair is an answer box into which the answer choices from the middle list must be moved. As there is a larger number of choices than correct answers, not all of the choices are appropriate. When learners wish to check their answers, they click on the check icon at the lower right of the screen. This greys out the answers choices placed correctly in the answer boxes.

Lesson 5 below (Figure 6.31) begins to introduce a greater emphasis on the language used as well as the visual information. From a combination of the visual and the aural information in this scene, and the schema they have already built up through working on the previous lessons, learners make a prediction about what will happen in the story after the current scene. This scene is played in the video window to the right, and learners select from among a list of four story summaries for the one they think describes what is most likely to occur in the next scene. This lesson uses the same radio buttons as Lesson 1 in Figure 6.27 with a feedback box below the answer box. There is no check mark icon for this lesson as the feedback informs learners of the appropriateness of their answer.

Figure 6.31 Lesson 5 Taxonomy level: Application
 Task type: Predicting next scene
 Strategies: • Predicting
 • Inferring



Lesson 6 illustrated in Figure 6.32 similarly does not use a check mark icon, as feedback is provided in the feedback box at the bottom of the lesson screen. In addition to feedback on the correctness of the learner's choice, feedback in response to an incorrect choice directs the learner's attention to a particular speaker, in this case, Jaksa Yusup. Feedback on the correct choice gives the learner additional explanation as to why this answer is correct. This is useful for those learners who may have guessed the answer, as it provides them with an informed reason why this answer is regarded as being correct. It

is also useful for other learners as it may contain some information that they were not sure about.

Figure 6.32	Lesson 6	Taxonomy level:	Comprehension
		Task type:	Rephrasing an utterance
		Strategies:	<ul style="list-style-type: none">• reasoning deductively• analysing linguistic expressions• using linguistic clues• using visual clues• summarising

MMInteraktif

Comprehension Level - Rephrasing an utterance

Balasan apa yang akan menimpa penjaga penjara kalau Gandring berhasil melarikan diri dari penjara?

penjaga akan dimarahi

penjaga akan dibunuh Gandring

penjaga akan dipenjarakan

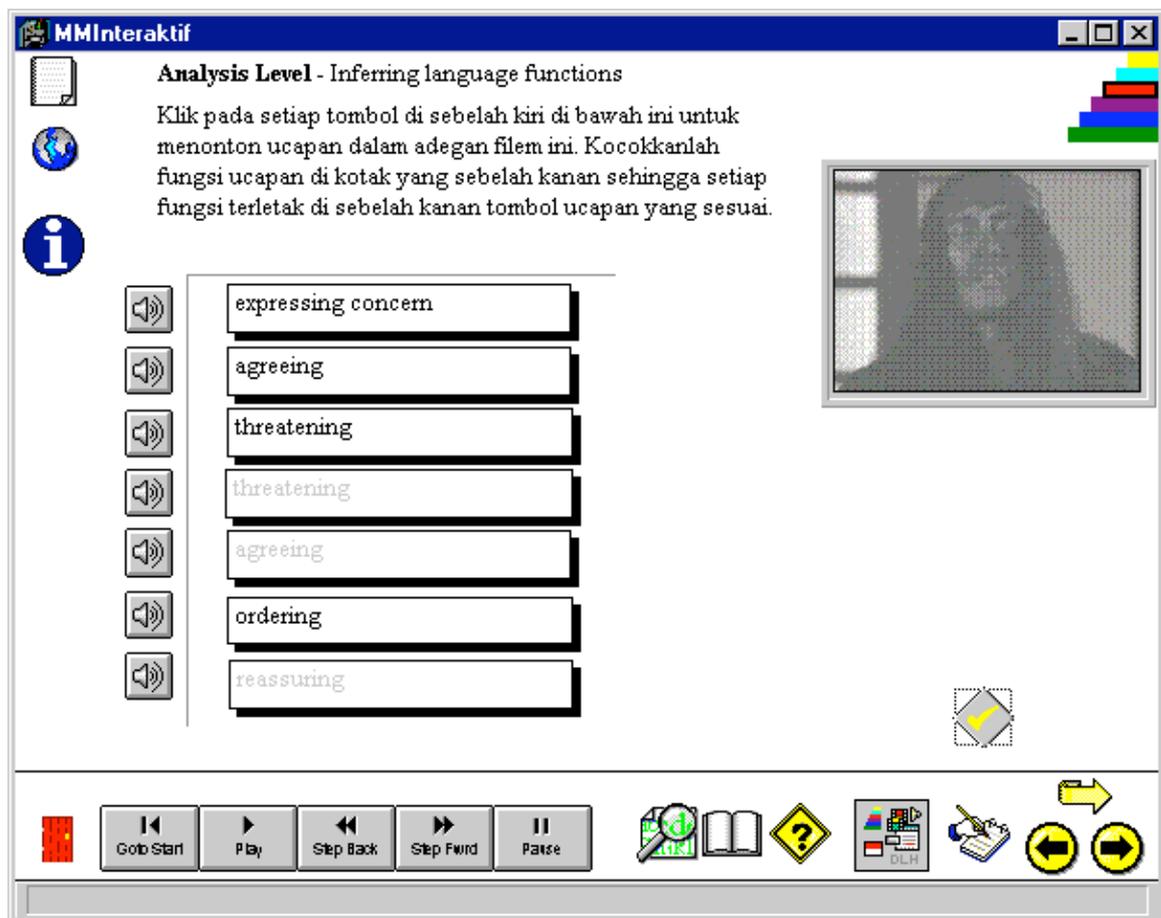
Ada kemungkinan, tetapi tidak begitu besar. Dengarkan lagi apa yang dikatakan Jaksa Yusup.

Go to Start Play Step Back Step Fwrd Pause

There is specific language focus in this lesson, as learners are instructed to watch this scene of the film and choose from among a list of brief summaries in the answer boxes, one that best describes the gist of what is said. To make the correct answer choice,

learners therefore need to pay attention not just to the linguistic clues, but also to the co-verbal clues such as gesture, proxemics and expression. This particular example, as it is the first of its kind in the first lesson sequence, is very graphic, with pointing, repetition, and raised voices.

Figure 6.33 **Lesson 7** **Taxonomy level:** **Analysis**
Task type: Inferring language functions
Strategies: • analysing linguistic expressions
 • reasoning deductively
 • inferring
 • associating/elaborating (memory)



A much more specific language-focussed element is introduced in Lesson 7 as illustrated in Figure 6.33 above. In addition, as learners need to take a more analytic approach to

what they hear and see than just comprehending, this lesson is located at the Analysis level of the taxonomy. This higher level of processing is also reflected in the types of strategies that it requires, namely the cognitive strategies of analysing linguistic expressions and reasoning deductively, as well as the memory strategies, grouping and associating/elaborating. There are also some elements of Metalinguistic strategies in this lesson (linking with known material, finding out about language learning, identifying the purpose of a language task), as it requires learners to be aware of the way language is structured and the terms used to describe this, in the form of 'functions'.

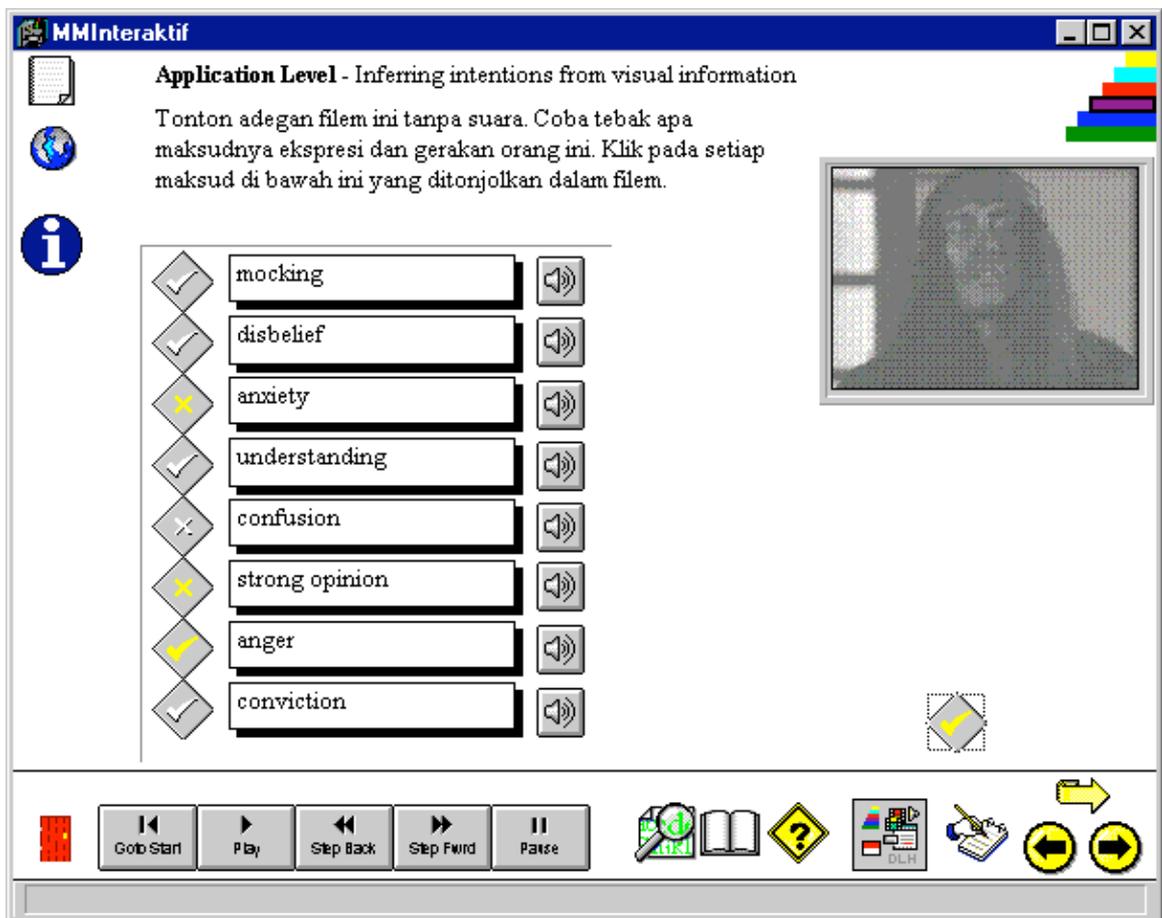
To complete this lesson, learners click on the individual *play* buttons to the left of the answer choices represented by classifications of language functions. They then drag-and-drop the language function buttons until each function button on the right is matched against the *play* button of the appropriate utterance from the film scene which exemplifies that function. These utterances are played from the film in the video window on the right of the screen. Learners check their answers using the check mark icon on the bottom right of the screen.

Returning to greater emphasis on how the visual information contained in a text can enhance comprehension, Lesson 8 (Figure 6.34 below) requires learners to make judgments about the intentions of participants in a scene based on their gestures and expressions, and the visually-portrayed interactions among them. For this reason, the video clip played in the media window is muted, to reduce the distraction of their having to process the audio information.

This lesson is located at the Application level of the cognitive taxonomy because learners need to make inferences on visual information without any audio clues, and also because they need to apply the classifications of visually-portrayed intent given in the answer box list to what they see in the media clip. The high level of processing involved is reflected in the number and range of learning strategies that are activated: cognitive (inferring, analysing expressions, reasoning deductively), paralinguistic (using expressions, gestures and situation as clues), and compensation (guessing intelligently, using context). This lesson is therefore a more sophisticated version of earlier lessons in this sequence which required a focus on visual information, as it also builds on the skills introduced and developed in those lessons.

Learners select their answers to this lesson simply by clicking on the crosses to left of each of the answer choices in the answer list box which they feel was shown in film. This changes the crosses to check marks. When learners feel they have completed the activity, they click on the check mark to the lower right of the screen which then shows their correct answer choices greyed out, while the incorrect ones remain in their original colour. The correct answers may therefore include a combination of greyed check marks and crosses, if learners correctly decide that certain of the listed intentions are not shown in the film segment they have watched. This simplicity of answer selection is necessary in order not to overload the cognitive demand made on learners in mechanical areas, or areas not related directly to the task of making meaning from the text.

Figure 6.34	Lesson 8	Taxonomy level:	Application
		Task type:	Inferring intentions from visual information
		Strategies:	<ul style="list-style-type: none"> • inferring • using expressions, gestures and situation as clues • analysing expressions • reasoning deductively • guessing intelligently • using context



Lesson-specific help for this lesson consists of the provision of additional *play* icons to the right of each of the intentions in the answer list box. For any of the intentions that do occur in the film segment, clicking on the associated *play* icon plays the appropriate

section. If an intention does not occur, nothing happens when the associated *play* icon is clicked.

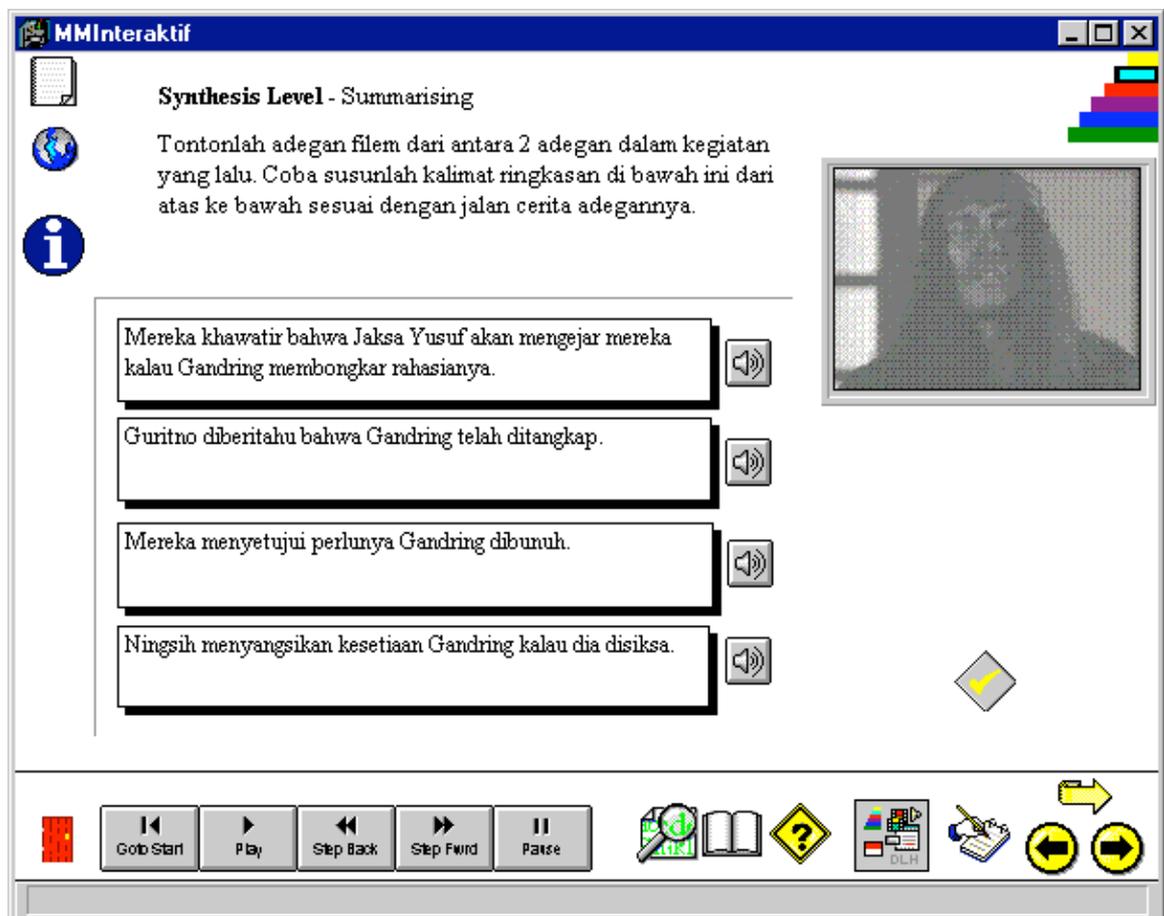
<p>Figure 6.35 Lesson 9</p>	<p>Taxonomy level: Task type: Strategies:</p>	<p>Application Inferring meaning & predicting middle of the story</p> <ul style="list-style-type: none"> • inferring • associating and elaborating • semantic mapping • reasoning deductively • recognising & using formulas & patterns • using linguistic & contextual clues • using expressions, gestures & intonation clues • predicting
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To work through this lesson, learners firstly read the instructions in the instruction field, telling them to watch two video clips showing an early and a later section of the story. Their task is to infer the general storyline by viewing these segments, and then to predict the progression of the story between the first and second segments. In this way learners are building a mental schema of the progress of the story, and the language used to convey or express this progression of the storyline. At the same time, they are gaining practice in using higher mental processes or learning strategies, such as memory strategies (associating and elaborating, semantic mapping), cognitive strategies (recognising and using formulas and patterns, reasoning deductively), compensation strategies (using linguistic and contextual clues), and paralinguistic strategies (looking for clues from similarities in expressions, gestures, and in intonation and non-linguistic clues) as detailed in sections 4.10-11 of Chapter 4.

In the answer field on the left of the screen is a list of summaries of possible storylines. By viewing the two separated video clips, learners decide which of these descriptions best describes the story as they envisage it unfolding. More than one choice may be possible. Learners make their selection(s) by clicking on the one(s) they think are appropriate. When these learner selections are appropriate, they are greyed out. The feedback that appears in the feedback window below the answer field also informs learners of the appropriateness of their choices and provides them with guidance in thinking through their answers. As with all other tasks or lessons, learners can choose to go to the Browser layer to see the full transcript, including the highlighted sections appropriate to the video clips viewed.

<p>Figure 6.36 Lesson 10 Taxonomy level:</p> <p>Task type:</p> <p>Strategies:</p>	<p>Synthesis</p> <p>Summarising</p> <ul style="list-style-type: none"> • associating/elaborating • semantic mapping • recognising & using formulas & patterns • recombining • reasoning deductively • analysing linguistic expressions • using linguistic & contextual clues • using expressions, gestures & intonation clues • summarising
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Completion of this lesson relies on the prior development of a schema as indicated in the previous lesson, and also provides a form of self-correction by showing learners the

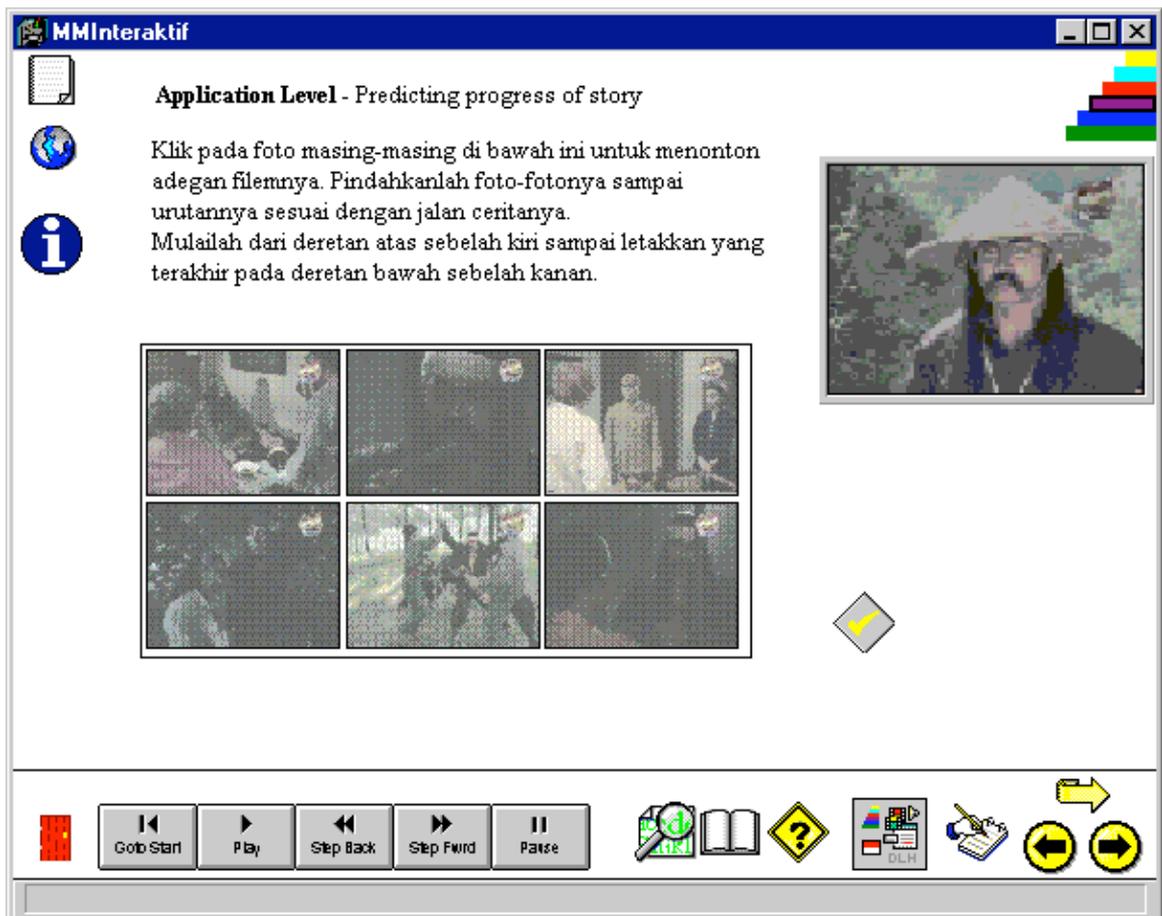
missing scene. In Lesson 10 illustrated in Figure 6.36, learners are instructed to shuffle the summary sentences in the answer field on the left so that, from top to bottom, their order corresponds to the chronological development of the storyline as represented in the video clip played in the video window on the right of the screen. Learners can confirm or disconfirm their answers by clicking on the check mark to the lower right of the screen. As in earlier lessons, the correctly positioned answers are greyed out while incorrect ones remain in black text. Once again, learners are free to make as many changes and checks as they wish.

As indicated by the extra strategies listed above, this is a multi-level task, in that learners need to complete three subtasks: comprehending and elaborating from the summary sentences on the basis of the inferences they have made in the previous lessons; comprehending the meanings stated in and inferred from the video clip; and then deciding on the appropriate order for the summary sentences to be presented. This latter activity is at the Application Level of the Taxonomy, remembering that each of the levels subsumes the cognitive demands of tasks from the lower levels. Learning strategies being developed here include those mentioned for the previous lesson, as well as recombining, analysing expressions, and summarising (cognitive), and using physical response (memory). As with the Taxonomy layer task using this template described earlier (Figure 6.24), the drag-and-drop technique used in this lesson provides learners with a kinesis learning style with a more intuitive mode of working.

As with the lesson above, Lesson 11 exploits the kinesis aspects of learning style. It also moves on from the known to the unknown, while continuing to build on learners' synthesis skills in predicting, extending, and reconstructing by further developing their

memory, cognitive, compensation, and paralinguistic strategies, and the social strategy of developing cultural understanding.

<p>Figure 6.37 Lesson 11 Taxonomy level: Application</p> <p>Task type: Predicting progress of a story</p> <p>Strategies: • associating/elaborating</p>	<ul style="list-style-type: none"> • semantic mapping • recognising & using formulas & patterns • recombining • reasoning deductively • analysing linguistic expressions • using linguistic & contextual clues • using expressions, gestures & intonation clues • developing cultural understanding
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Similar to the previous lesson, this one also comprises three subtasks: a comprehension stage, followed by listening and viewing for key words or contexts, and a reconstruction or reordering subtask. Whereas in the previous lesson, there was greater emphasis on comprehension of written summary sentences, this lesson requires learners to create meaning more from the visual representations and their schemata developed so far in the lesson sequence. This lesson therefore begins to pull together the aural and visual comprehension skills and strategies with the establishment of a coherent schema for the film as a whole text.

Learners click on each of the 6 still pictures appearing in the middle of the screen in order to play the associated scene from the film in the video window to the right. They then drag-and-drop these pictures, shuffling them until they are happy that their order corresponds to the likely narrative order in the story. Learners then check their answers using the yellow check mark icon. A white border appears around pictures that are in the correct chronological order. Learners can also watch the complete section of the film incorporating all 6 scenes by clicking in the video window.

In Lesson 12 below, learners are brought back to a stronger linguistic focus, though the schemata established in previous lessons are important for the comprehension demands made here. The video window again appears on the right of the screen, with the answer field to the left. By clicking on each of the *play* icons to the left of the answer buttons, the film segment associated with that *play* icon, consisting of a single utterance, appears in the video window. Learners' task in this lesson is to reorder these utterances in chronological order from top to bottom. Success or otherwise of their reordering can be

checked by clicking on the check mark to the bottom right of the screen and seeing which utterances are greyed out.

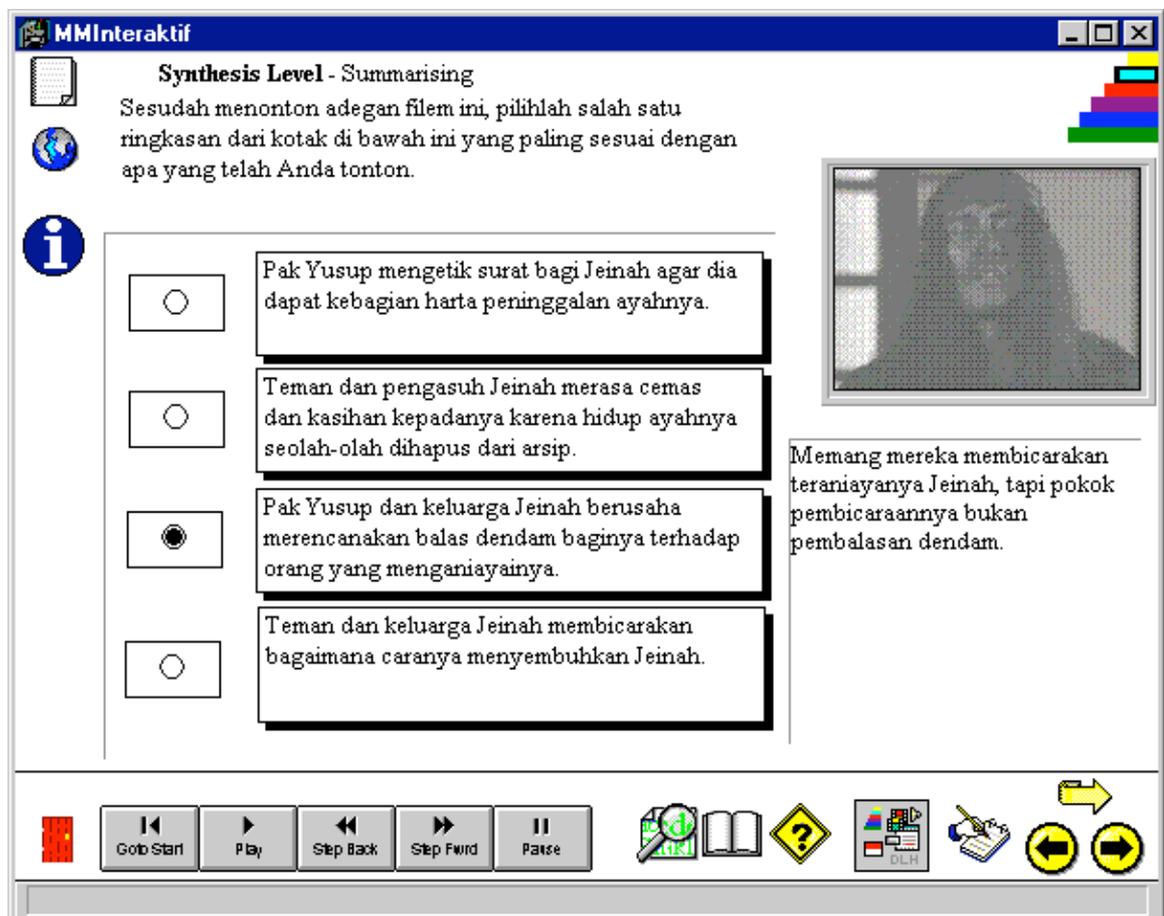
<p>Figure 6.38</p>	<p>Lesson 12</p>	<p>Taxonomy level:</p> <p>Task type:</p> <p>Strategies:</p>	<p>Comprehension</p> <p>Reordering utterances</p> <ul style="list-style-type: none"> • associating/elaborating • semantic mapping • using key words • analysing linguistic expressions • reasoning deductively • using linguistic and contextual clues • using expressions, gestures, intonation & situation • developing cultural understanding
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The cognitive demand of this lesson has been deliberately designed at a lower level on the Taxonomy than previous lessons, since the memory, listening and viewing demands are higher. This is because less prompting text appears on the screen. Learners can only see the names of the participants in this conversation. Strategies developed in this lesson include memory (associating/elaborating, semantic mapping, using keywords), cognitive (analysing linguistic expressions, reasoning deductively), compensation (using linguistic and contextual clues), paralinguistic (using expressions, gestures, intonation & situation), and social (developing cultural understanding) strategies.

By Lesson 13 of this Lesson Sequence (Figure 6.39 below), learners should have quite a high level of comprehension for the general flow of the story as a whole. The scene on which this lesson is based is fairly low on visual action, but strongly focussed on facial expression and gesture. All of the major 'good' characters participate in this scene. It also contains a lot of background information conveyed verbally as to the motives of various characters and the consequences of their actions. For these reasons, it is useful as the basis for a summarising activity near the end of this Lesson Sequence. It is also this combination of high verbal and co-verbal information, as well as high cognitive demand that puts this lesson at such a high level on the Taxonomy. This is emphasised by the range and number of strategies exploited in completing this lesson, as listed below.

<p>Figure 6.39</p>	<p>Lesson 13</p>	<p>Taxonomy level: Task type: Strategies:</p>	<p>Synthesis Summarising • (memory strategies as for lesson 12 above) • recognising & using formulas & patterns • analysing linguistic expressions • summarising • using linguistic & contextual clues • using expressions, gestures, intonation & situation • developing cultural understanding</p>
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The answer box to the left of the screen contains a list of summary sentences, to the left of each of which is a radio button. Learners watch the scene for this lesson by clicking in the video window to the right of the screen, and then choose which of the summary

sentences they feel best describes the scene. When they have made their choice by clicking on the appropriate radio button, feedback appears in the feedback box below the video window. Feedback includes a brief explanation of the reason that the selected answer is right or wrong.

As Lesson 14 below places such a high level of cognitive demand on learners, it is necessary for it to come so late in the Lesson Sequence. This gives learners time to establish sufficient background information to the characters and the storyline, to allow them to focus more on the strategic and cognitive demands of the lesson. In layout and mode of answering, this lesson follows the same model as the previous lesson illustrated in Figure 6.39. However, the segment of film that is played in the video window comprises the connected scenes used as the basis for several earlier lessons in this sequence.

Figure 6.40	Lesson 14	Taxonomy level:	Evaluation
		Task type:	Evaluating conflicting evidence
		Strategies:	<ul style="list-style-type: none"> • (memory strategies as for Lesson 12 in Figure 6.38 above) • predicting • inferring • recognising & using formulas & patterns • recombining • analysing linguistic expressions • analysing contrastively (across languages) • summarising • using linguistic & contextual clues • using expressions, gestures, intonation & situation • developing cultural understanding • becoming aware of others' thoughts and feelings

MMInteraktif

Evaluation Level - Evaluating conflicting evidence

Menurut pendapat Anda seberapa berhasilnya gabungan pemerintahan residen Belanda dengan Tumenggung pribuminya? Jawaban Anda harus berdasarkan apa yang Anda tonton dalam adegan filem ini.

Pemerintahan ini cukup berhasil karena orang pribumi diikutsertakan dalam menentukan putusan.

Pemerintahan ini tidak berhasil karena orang dihukum mati oleh orang yang berkuasa.

Pemerintahan ini cukup berhasil karena baik perempuan maupun laki-laki ikut menentukan putusan.

Pemerintahan ini tidak berhasil karena orang kecil tetap ditindih dan hanyalah orang munafik yang dapat mengambil peran dalam pemerintahan.

Bahwa baik perempuan maupun laki-laki ikut mengambil putusan memang adalah hal baik. Tetapi apakah hanya hal itulah penting dalam penentuan baik tidaknya sebuah pemerintah?

Go to Start Play Step Back Step Fwd Pause

To complete this lesson, and therefore this sequence, learners are required to evaluate the consistency of the conflicting evidence conveyed by the actions and utterances of various characters in the film. On the basis of this evaluation, they then make inferences about the probable state of affairs at the geographic and historic location where the film is set. Finally they are in a position to make a judgment about the effectiveness and appropriateness of this state of affairs – which is the question posed in this lesson.

Through this sequence of lessons learners are thus able to build up a fairly comprehensive picture of the sociocultural interactions among the indigenous people, and between these and the foreign occupants and rulers of the country at the time. In addition, learners are being exposed to a variety of learning styles and gaining valuable practice in utilising

these, as well as practising a range of learning strategies, some of which they may not have tried before. In terms of direct effects of the listening and viewing comprehension lessons themselves, learners are given the opportunity to expand their linguistic-based listening comprehension skills to include the paralinguistic aspects of viewing comprehension and an awareness of the complementarity of these.

6.4 Conclusion

As has been illustrated in detail above, all features of the *MMInteraktif* package, from the interface to the media clips, have been deliberately designed to allow learners maximum control over their paths through the package, while at the same time providing easy access to information on good learning strategies, to allow learners to make best use of the control they have. The content of tasks and lessons themselves are also designed to integrate the acquisition of higher mental processes such as synthesizing and evaluating, with the acquisition of listening comprehension skills, and with awareness-raising about learning strategies appropriate to enhancing language acquisition. As presented in Chapter 5, and illustrated in this chapter, relevant information and understanding derived from established research and theoretical studies across a range of fields has been incorporated into the construction of the control and navigation mechanisms of the package.

These principles have provided this author with the insights to design and produce this set of listening and viewing comprehension tasks, tools and resources which represent an improvement over previous computer-assisted listening comprehension approaches. This improvement is most obvious in the shift of the locus of control over the tools and resources from the teacher/designer, or the technology, to the learner. With this shift of

control, learners can select the level of control they wish to have, ranging from the ‘teacher/designer-directed’ Lesson Sequence layer to the free-form Browser layer as described here.

In the following chapter, suggestions will be made of how to evaluate the effectiveness of the design approach taken in this package for language learning and ease of use. The range of information and data that can be collected using a combination of learner-observation and the record keeping features of the package will also be discussed in the context of how a comprehensive analysis of these can be used to expand our current understanding of language learners and CELL. These and other related topics will be discussed in the next chapter.