

# Concept Star

Decision Making Tool for  
Professionals

**Version 2.0**

## User Manual

This manual is from a discontinued version of Concept Star. However it provides the best description for a beginner to learn how to use Concept Star and the ISM process.

To view the updated feature list for Concept Star 3.1, visit [www.sorach.com/cs31feat.html](http://www.sorach.com/cs31feat.html).

To obtain a copy of the new Concept Star 3.1 user manual, please send request to [sales@sorach.com](mailto:sales@sorach.com).



**SORACH**

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# 1 Introduction

Welcome to Sorach's Concept Star, the most advanced Interpretive Structural Modeling (ISM) software available for Windows. It is based on many years of practical consulting experience in the area of executive decision making and organizational problem solving. We are confident that you will find Concept Star invaluable in your day to day understanding of complex issues.

Concept Star can be used either as a personal tool or by consulting professionals who wish to use the ISM method to help their clients. Organizations pay thousands of dollars a day to consultants who offer ISM. This powerful tool is now in your hands to use at any time.

Concept Star is easy to use. Most people are able to master it in 1-2 hours. If you are already familiar with ISM you may proceed to use Concept Star with the help of this manual. For readers interested in learning more about the ISM technique, a list of references is provided at the back of this manual.

## 1.1 Interpretive Structural Modeling (ISM)

In 1973, J. Warfield proposed Interpretive Structural Modeling (ISM) as an effective method for understanding complex situations and finding solutions to complex problems.

ISM is a method for creating a 'road-map' of complex situations where there are many issues or options to consider. It is often used to provide fundamental understanding of complex situations, as well as to put together a course of action for solving a problem. ISM has been used worldwide by many prestigious organizations including NASA<sup>1</sup>.

ISM uses pair-wise analysis of ideas to transform a complex issue or problem involving a lot of ideas into a structured model that is easier to understand. The resulting model is used to formulate ideas and solutions to deal with the complex problem at hand.

ISM is frequently used in a group environment to understand and resolve complex issues because a wider knowledge base is available to address the problem. ISM helps to extract the group's knowledge by focussing discussion on only one pair of issues at a time. The process of constructing an ISM creates clarity and common understanding for the group. Almost always, a

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<sup>1</sup> Christakis, A.N. 1985, "High Technology Participative Design: The Space-Based Laser", Proceedings of the 1985 International Conference of the Society for General Systems Research, Vol. II, pp. 925-933. Seaside, CA. Intersystems Publications.

great deal of communication and analysis takes place during an ISM session and a common language emerges as a result.

Concept Star performs equally well as a personal desktop tool or in a professional group decision-making session. Here are a few examples of how it can be of benefit both personally and professionally.

- Understanding and solving complex issues related to work
- Planning / establishing your career path
- Personal visioning and goal setting
- Organizational mission statement and goal setting
- Formulating corporate strategy
- Creating a manageable set of actions to solve a complex organizational problem
- Selection of technologies for investment
- Scenario Planning
- Creating a common understanding of the situation involving technical staff and marketing
- Feature prioritization for a complex product
- Defining new strategic planning process
- Creating marketing plan in a chaotic market
- Defining software features for the next product release
- Designing the user interface logic.
- Designing a training course
- Writing a poem, essay or story.

We thank you for purchasing Concept Star and hope that you will use it frequently to further your personal and professional goals.

## 1.2 Hardware and Software Requirements

The minimum hardware and software requirements for Concept Star are:

- A personal computer with a 486DX or higher processor,
- Microsoft Windows 95 or compatible operating system,
- 8MB of RAM,
- Hard disk drive with at least 10 MB available,
- A CD-ROM drive,
- VGA or higher-resolution monitor,
- A mouse or compatible pointing device.

Optionally a sound card and speakers are required to play the audio track of the Concept Star CD through your computer. The audio track can also be played on audio CD players.

## 1.3 Technical Support

Technical support details are included on the reference card.

## 1.4 About this Manual

This manual has been designed to allow the reader to learn to use **Concept Star** quickly and easily. It assumes that the reader is familiar with the operating system (example Windows 95), and knows how to use a word processor (for example Word<sup>2</sup> or WordPerfect<sup>3</sup>).

Readers new to Windows 95 or later operating system can refer to the Windows manual, to Windows online help (click Start and choose Help), or to one of several books available on Windows operating systems.

This manual is organized as follows:

Chapter 1 provides general introduction.

Chapter 2 contains the software installation procedure, an overview of using Concept Star, and a brief definition of ISM terminology.

Chapter 3 provides a small example for learning the use Concept Star and the Interpretive Structural Modeling method of problem solving.

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<sup>2</sup> Trademark Microsoft Corporation

<sup>3</sup> Trademark Corel Corp.

Chapter 4 provides details on how to use Concept Star.

This manual concentrates on teaching the use of Concept Star software. It does not attempt to teach ISM fundamentals such as methods for generating ideas or determining the control phrases (*Context* and *Relation*).

## **1.5 Note to New Users**

Concept Star software is easy to master. However, it is also very important to understand and practice the determination of the ISM control phrases - *Relation* and *Context*, which are needed to construct an effective ISM. Correct selection of these control phrases is vital to unlocking the power of Concept Star or any other ISM tool. The reader can learn this from published literature on the subject or the book that may be included in this software package depending on the product purchased.

## 2 Installation and Startup

### 2.1 Installing Concept Star

To install Concept Star, you will need:

- The Concept Star installation CD,
- The serial number from the sticker on your CD liner or CD sleeve,
- The registration card from the back of this manual.

To install Concept Star,

1. Insert the Concept Star CD into your CD-ROM drive.
2. Click **Start** in Windows 95 and select **Run**.
3. Type **D:\SETUP** (replace **D:** with the drive letter corresponding to the CD drive you are using) and click **OK**.

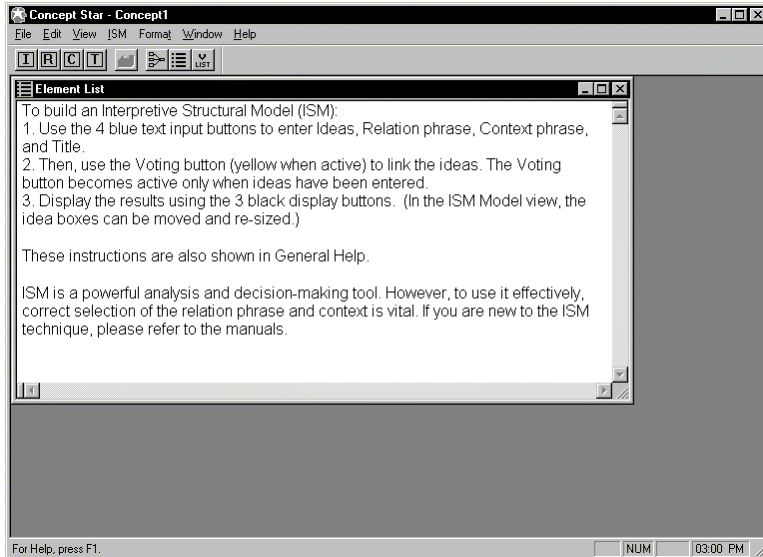
This will start the Concept Star setup program. Follow the instructions on the screen. The Concept Star serial number must be entered exactly as shown on the sticker.

### 2.2 Registering with Sorach

Please take a moment to complete and mail the enclosed Registration Card. Registered users have access to limited technical support and will receive advance information about new products and special upgrade offers available from Sorach from time to time.

## 2.3 Starting Concept Star

To start Concept Star, click the Windows **Start** button, point to **Programs**, and click **Concept Star**. The program starts with a blank ISM document and displays the screen shown in figure 2-1.



**Figure 2-1 Concept Star startup screen**

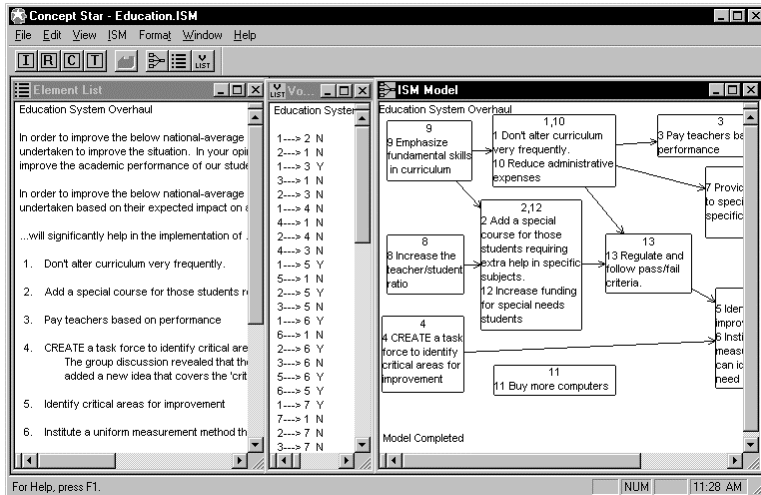
The Element List window of a blank document displays brief instructions on how to use Concept Star. Once you enter information into the program, these instructions are replaced by the text you entered. (To display these instructions again, pull down the **Help** menu and choose **General Help**. Help is also available for most Concept Star screens by using the **<F1>** key.)

Concept Star is designed to work with only one ISM document open at a time. If you do not want to work with the ISM document currently displayed, you must close it and then open the file containing the document you want (pull down the **File** menu and select **Close** then pull down the **File** menu and select **Open** or **New**).

You can also open an existing Concept Star document file by double clicking on the file.

## 2.4 Overview

Figure 2-2 shows the Concept Star screen with an example ISM model open. To display this model, double-click the file named “Education” or “Education.ISM” on the Concept Star CD.



**Figure 2-2 Concept Star displaying various views of an example ISM**

Concept Star uses 3 views or windows to display the data, the **Element List**, the **Vote List**, and the **ISM Model**. To see the Vote List, pull down the **View** menu and select **Vote List** or click the **Vote List** toolbar button.

By default, the **Element List** view displays the ISM Title, Trigger Question, *Context*, *Relation*, and a list of the Ideas with their Qualifications. Ideas are also called ISM elements since they are used to construct the model.

The **Vote List** view displays the ISM Title and the list of Votes used to link ideas. In the example list of votes, 1 ---> 2 N means that the vote was **NO** for the following statement:

“Don't alter curriculum very frequently” (*Idea 1*)

“...will significantly help in the implementation of...” (*Relation*)

“Add a special course for those students requiring extra help in specific subjects” (*Idea 2*).

This relationship does not exist.

The **ISM Model** view displays the ISM Title and a diagram showing the relationships between the ideas as specified by the votes.

### 2.4.1 Definitions

ISM Title	The ISM title is a name suitable for the problem being studied. The title is displayed at the top of each view and on printouts.
Trigger Question	The trigger question is used during the idea generation session <sup>4</sup> to help produce the list of ideas. Concept Star does not require that the trigger question be entered to create an ISM model. It is recorded and displayed on the Element List view for reference only.
Context	The <i>Context</i> is an important control phrase that guides discussion and decision-making during construction of the ISM model. It is displayed during the ISM voting activity to remind participants of the situation and what they are hoping to accomplish. Although, <i>Context</i> is not required for operation of the software, it is very important for practical use during the voting activity <sup>4</sup> .
Relation	The <i>Relation</i> is an important control phrase that determines the meaning and structure of the ISM model. It is displayed during the ISM voting activity and used by participants to analyze the relationship between the idea pairs.
Ideas	This is the set of ideas to be structured during the ISM session to form the Model. Ideas are also called ISM elements. Ideas are generally obtained from an idea generation session <sup>4</sup> .
Idea Qualification	The idea qualification refers to supplementary information that may be recorded about an idea. This information is not a requirement for the operation of the software.

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<sup>4</sup> For more information see the references listed at the back of this manual.

Voting	This activity takes place during the ISM session. The software asks the user to answer a series of Yes/No questions to specify whether the relationship exists between the presented pairs of ideas. The software collects the user's response (vote) and uses it to construct the ISM model. The Voting activity forces participants to discuss and exercise critical thinking and decision making on the issue at hand, thus it provides significant value in its own right. Please note that the term 'Voting' is used loosely because it is frequently done as a group activity.
ISM Model	This is a simplified diagram showing the relationships between the ideas. The simplification, developed by J. Warfield, is based on transitive logic.
Transitive Logic	<p>Transitive logic states that for any group of ideas (A, B, C):</p> <ol style="list-style-type: none"> <li>1. If we know A contributes to B and we know B contributes to C, then it is implied that A contributes to C. This is written <math>A \rightarrow B \rightarrow C</math>.</li> <li>2. If we know A contributes to B and we know A does not contribute to C, then it is implied that B does not contribute to C.</li> </ol> <p>Concept Star uses transitive logic to reduce the number of votes required to construct the ISM and to simplify display of the model.</p>

## 2.4.2 Producing an ISM Model

To construct an Interpretive Structural Model, first start Concept Star with a blank document (click the **Start** button, point to **Programs**, and click **Concept Star**). Then complete the following 3 steps in order:

1. Use the 4 text input buttons located on the toolbar to enter Ideas, *Relation* phrase, *Context* phrase, and Title.

 **Edit Ideas**

 **Edit Relation**

 **Edit Context**

 **Edit Title**

2. Then, use the Voting button to link the ideas. The Voting button only becomes active when ideas have been entered.



**Voting**

3. Display the results using the 3 display buttons.



**ISM Model**



**Element List**



**Vote List**


#### NOTES:

1. The ideas, or Elements, are used to construct the Interpretive Structural Model. At least two ideas are required to construct an ISM. In most practical situations, 5 to 30 ideas are used.
2. The Voting activity is where information to link the ideas is entered into the computer. The computer uses the *Context* and *Relation* to question you on whether or not the relationship exists between pairs of Ideas. The program then uses this information to construct the ISM. The computer will inform you when all of the votes required to complete the ISM model have been entered. The term 'Voting' is used loosely because, in most practical situations, this step is done in a group, with discussion to clarify logic.
3. In the ISM Model view, the 'boxes' can be repositioned by dragging them by the center. The 'boxes' can be resized by dragging them by the corners. Boxes contain the associated idea text, which will be displayed when the box is large enough. Generally, the model is easier to understand when the boxes are positioned to minimize the number of arrows that cross, and all the arrows point in the same direction.
4. If further analysis (discussion, or clarification of the ideas) indicates that the model should be refined, this is done as follows:
  - To modify an idea, see “Editing Ideas after Voting has Started”.
  - To change a vote, you delete the vote and then re-vote. See “Deleting Votes”.

### **2.4.3 Saving the Model**

It is recommended that the ISM model under construction be saved often, so that most of the data is preserved in case of power failure or other unforeseen problems.

To save the ISM model, pull down the **File** menu and select **Save** or **Save As...**

To save the ISM model during the Voting activity, close the **Voting** dialog box (click the **Close** button  in the top right corner), then save the model (pull down the **File** menu and select **Save** or **Save As...**).



### 3 Example Interpretive Structural Model

The best way to learn to construct an ISM is by doing it. This chapter provides an overview of the Interpretive Structural Modeling method and a walk-through of Concept Star ISM software using a small example. This example will produce the Interpretive Structural Model shown in figure 3-1.

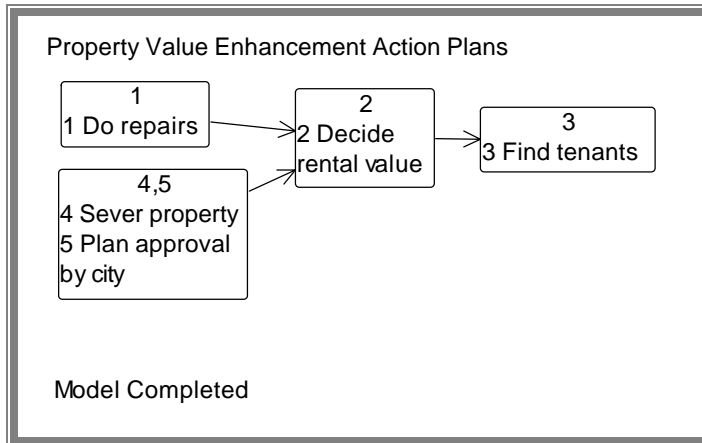


Figure 3-1 Example Interpretive Structural Model

#### 3.1 Background

I am a co-owner of a 3-unit apartment building that had been allowed to deteriorate. It is in an excellent location. However, the building was vacant and required major repair work. We were losing money due to ongoing mortgage payments and, unless we did something, the losses would continue. We needed a plan of action to remedy the situation.

To decide on the best possible plan, we:

- First produced a list of all possible actions we could take,
- Selected the most important actions, then,
- Structured these actions into possible plans of action, and
- Used the insights gained to decide our course of action.

The first 2 steps were done in a group meeting that did not involve the use of a computer. Structuring the important actions and deciding our course of action was done in a second meeting of the same group, using Concept Star (see “Using Concept Star to Create the Action Plans”).

The title for our Interpretive Structural Model Action Plans was:

### **Property Value Enhancement Action Plans.**

The list of possible actions was generated during a brainstorming<sup>5</sup> session. We invited all the building owners and also a friend who is knowledgeable in renovation and construction. The trigger question used was:

#### **What actions can we take to maximize the value of our investment?**

Out of the 23 identified possible actions, the following 5 were determined to be the most important<sup>6</sup>.

- 1. Do repairs.**
- 2. Decide rental value.**
- 3. Find tenants.**
- 4. Sever property. (This involves a private street front entrance for each unit.)**
- 5. Plan approval by city.**

Of these possible actions, number 1 required further investigation. One owner and my contractor friend were assigned to identify needed repairs before our second meeting. These 5 action ideas were used to construct the ISM model.

The *Context* and *Relation*<sup>7</sup> phrases used during construction of the *Action Plans ISM* to help focus discussion of the displayed pairs of ideas were:

#### **Context:**

**In order to maximize the property value, given its current poor condition,**

#### **Relation:**

**will significantly help to.**

---

<sup>5</sup>For more information on brainstorming and other methods of generating ideas see the references listed at the back of this manual.

<sup>6</sup> This is a very small example for learning purposes. Typically, a brainstorming session will produce over 100 elements and ISM sessions are done using 10 to 30 elements.

<sup>7</sup> In practical problem solving, the choice of appropriate Context and Relation phrases is very important. For more information see the references listed at the back of this manual.

The *Context* reminded us of the current situation and what we are hoping to accomplish. The *Relation* phrase was chosen to make comparison of the actions ideas easier, given that our goal for the ISM was to produce possible action plans. We ensured that this *Relation* phrase was consistent with the rules of Transitive Logic.

In our second meeting we would discuss and vote on the relationship between pairs of ideas to construct the *Action Plans ISM*. After it was completed, we would use it for discussion and decision making. In preparation for that meeting, I was assigned the task of entering the Title, Ideas, *Context* and *Relation* into Concept Star.

We are now ready to use Concept Star to re-create the *Action Plans ISM*.

## 3.2 Using Concept Star to Create the Action Plans

Using Concept Star to construct an ISM involves 2 steps:

1. Entering text information into the Concept Star.
2. Entering the relationship votes into Concept Star to construct the ISM.

This section will take you through using Concept Star to produce the ISM.

Start Concept Star on your computer (click the **Start** button, point to **Programs**, and click **Concept Star**). Concept Star starts with a new, empty ISM model (figure 2-1). You are now ready to enter the text information and the relationship votes to produce the *Action Plans ISM*.

### 3.2.1 Entering Text Information.

In this section, the ISM title, trigger question, ideas (action items), *Context* and *Relation* will be entered into the computer.

To enter the title, pull down the **ISM** menu and select **ISM Title** or click the **Edit Title** toolbar button. In the 'Edit ISM Title' dialog box, type "Property Value Enhancement Action Plans" and click **OK** (figure 3-2).

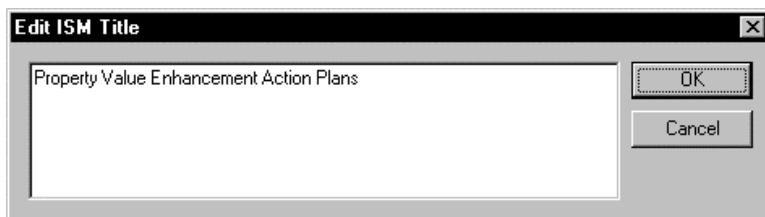
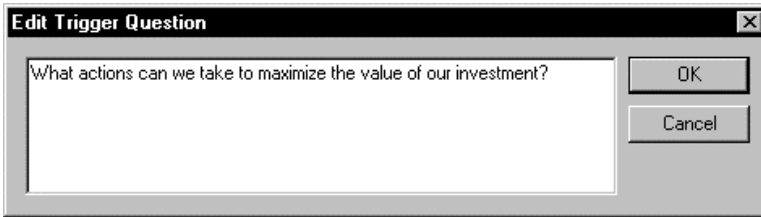


Figure 3-2 Example ISM Title

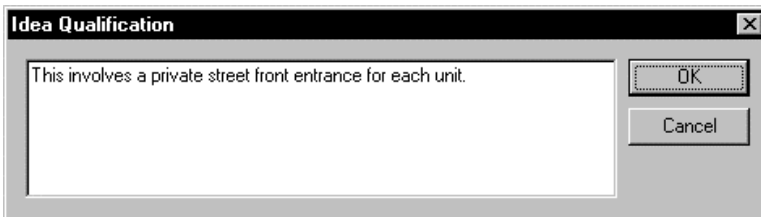
To enter the trigger question, pull down the **ISM** menu and select **Trigger Question**. In the 'Edit Trigger Question' dialog box, type "What actions can we take to maximize the value of our investment?" and click **OK** (figure 3-3).



**Figure 3-3 Example Trigger Question**

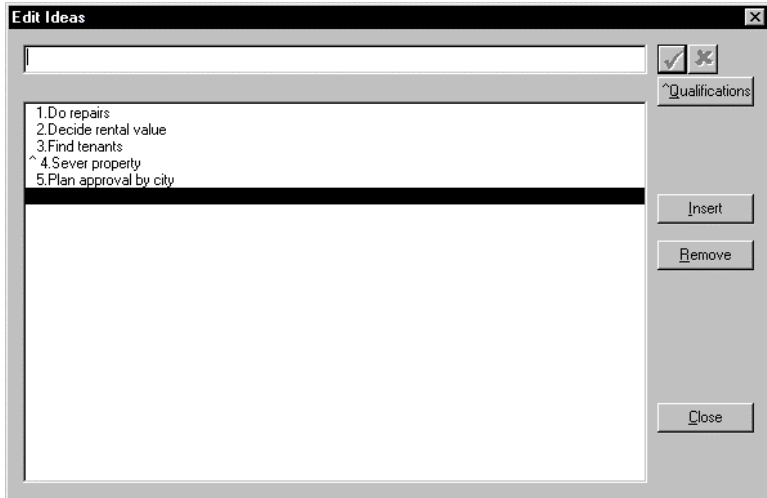
To enter the ideas, pull down the **ISM** menu and select **Ideas** or click the **Edit Ideas** toolbar button. This will open the 'Edit Ideas' dialog box. To enter the 5 ideas:

- Type "Do repairs" and press <Enter>
- Type "Decide rental value" and press <Enter>
- Type "Find tenants" and press <Enter>
- Type "Sever property" and press <Enter>
- Type "Plan approval by city" and press <Enter>
- To enter the qualification to idea #4 ("Sever property"), click on element #4, then on the '**Qualifications**' button. Type "This involves a private street front entrance for each unit." in the 'Element Qualification' dialog box (figure 3-4).



**Figure 3-4 Example Element Qualification**

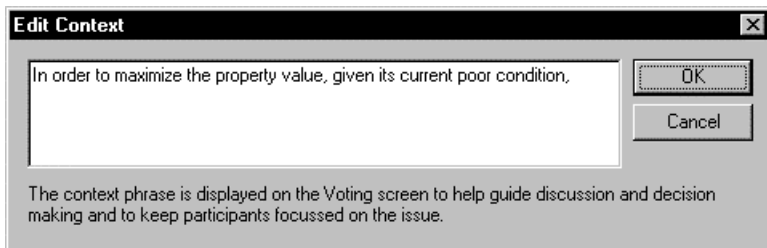
When all 5 ideas and the qualification have been entered, the 'Edit Ideas' dialog box will look as shown in figure 3-5.



**Figure 3-5 Example Edit Ideas dialog box**

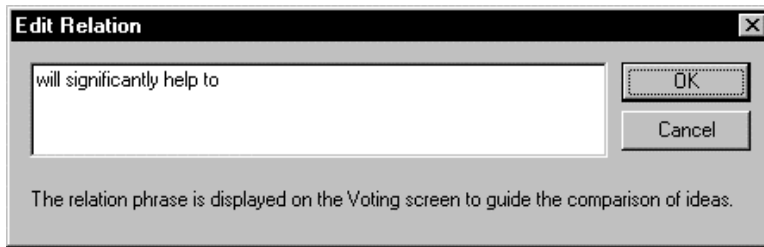
Close the 'Edit Ideas' dialog box by clicking the **Close** button.

To enter the *Context*, pull down the **ISM** menu and select **Context** or click the **Edit Context** toolbar button. In the 'Edit Context' dialog box, type "In order to maximize the property value, given its current poor condition," and click **OK** (figure 3-6).



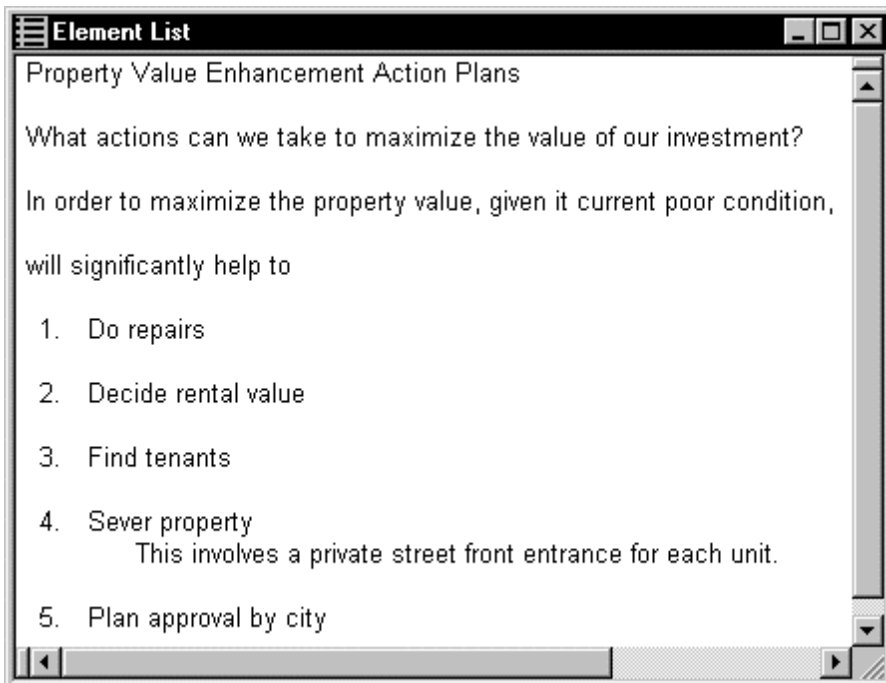
**Figure 3-6 Example ISM Context**

To enter the *Relation*, pull down the **ISM** menu and select **Relation** or click the **Edit Relation** toolbar button. In the 'Edit Relation' dialog box, type "will significantly help to" and click **OK** (figure 3-7).



**Figure 3-7 Example ISM Relation**

The text has now been entered. Figure 3-8 shows the Element List view.



**Figure 3-8 Example Element List view**

Save the ISM information entered so far (pull down the **File** menu and select **Save**).

In the next section, you will enter the relationship votes to construct the *Action Plans ISM*.

### 3.2.2 Voting Activity (Entering the Relationships)

This is the step that actually constructs the ISM. It is usually done in a group session with participants discussing and voting on the relationship between pairs of ideas as they are presented.

Pull down the **ISM** menu and select **Voting** or click the **Voting** toolbar button. The Voting dialog box for the first pair of ideas will be displayed (figure 3-9). To enter the votes (relationships) for the *Action Plans ISM*, follow figures 3-9 to 3-22 and the associated instructions.

If you enter the votes exactly as described, you will be asked to vote on the element pairs in the order shown below and you will produce the ISM model shown in figure 3-1. If you enter a different vote for any pair of elements, the element pairs presented may be different from those shown below, and the ISM model will be different.

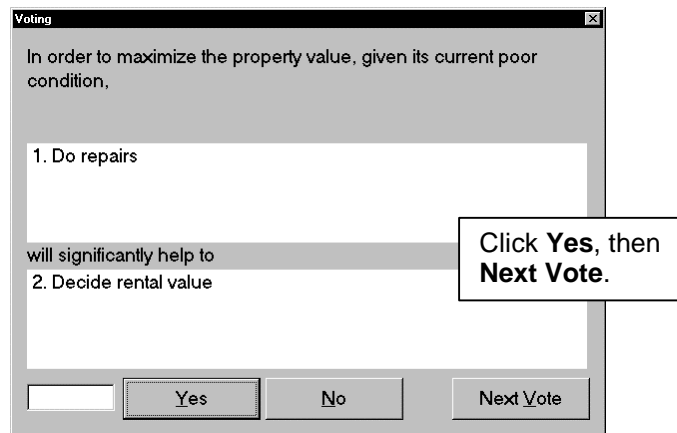
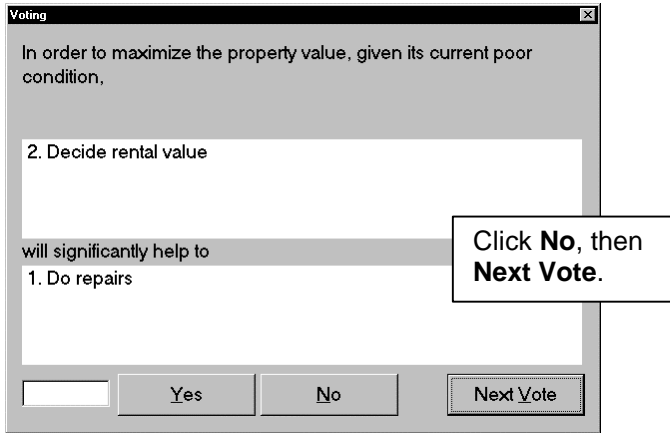
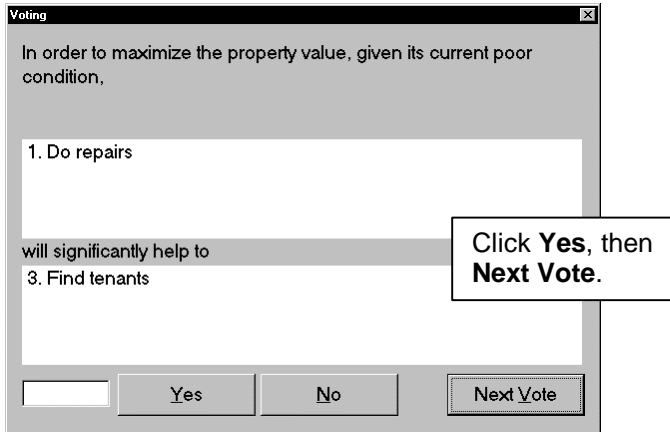


Figure 3-9 Voting dialog box

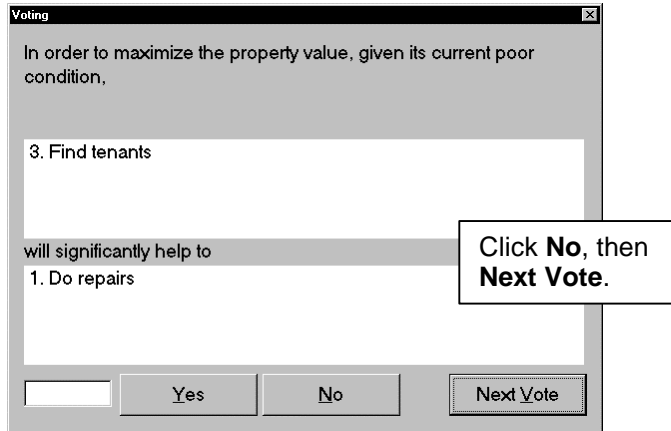


**Figure 3-10 Voting dialog box**

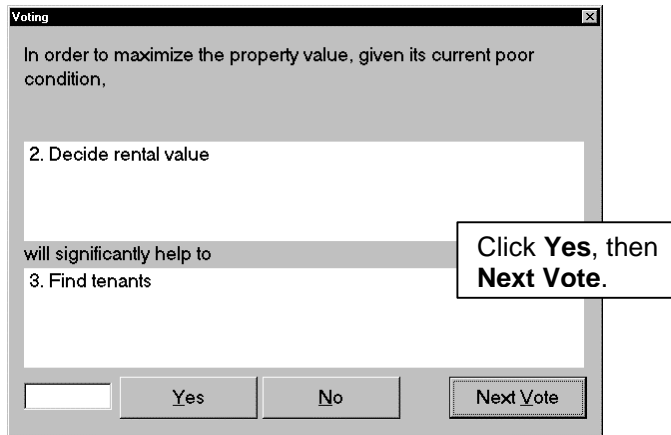
The discussion for the relationship shown in figure 3-11 was quite heated. Most of us felt that finding tenants would generate money needed to do repairs. However it was pointed out that in the current condition of the building, finding tenants would be extremely difficult. We decided that some repair work needed to be done first.



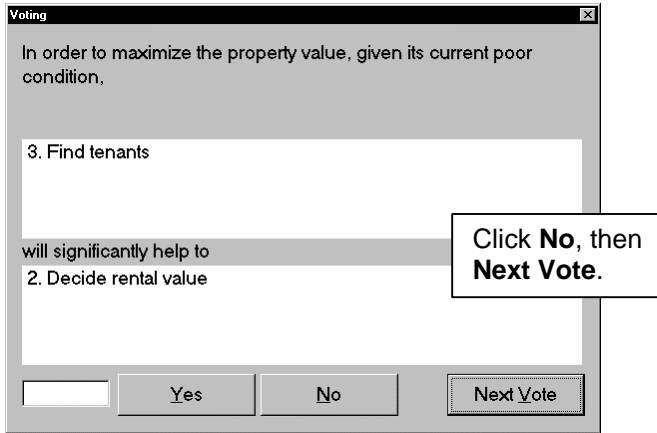
**Figure 3-11 Voting dialog box**



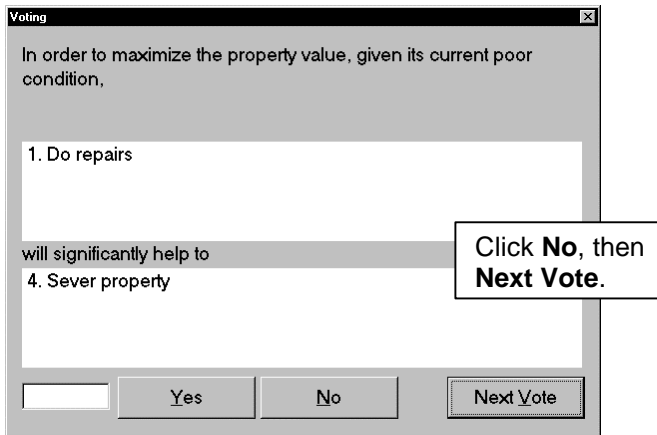
**Figure 3-12 Voting dialog box**



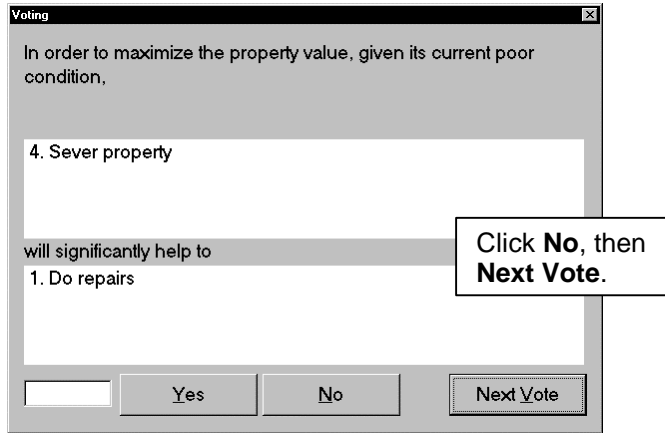
**Figure 3-13 Voting dialog box**



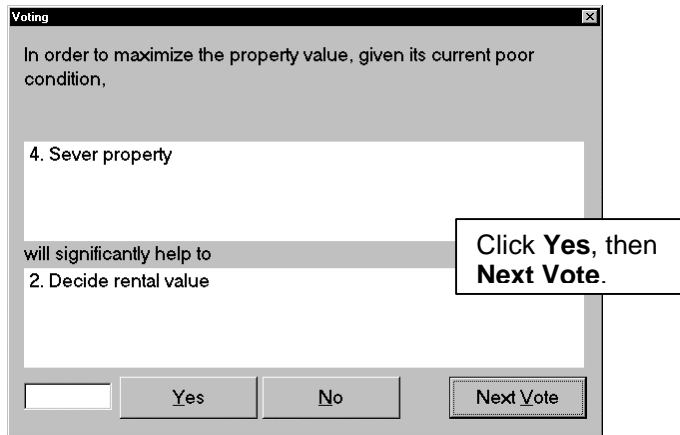
**Figure 3-14 Voting dialog box**



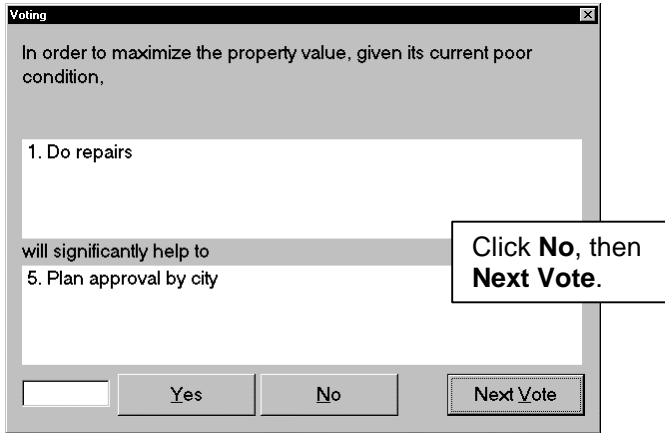
**Figure 3-15 Voting dialog box**



**Figure 3-16 Voting dialog box**

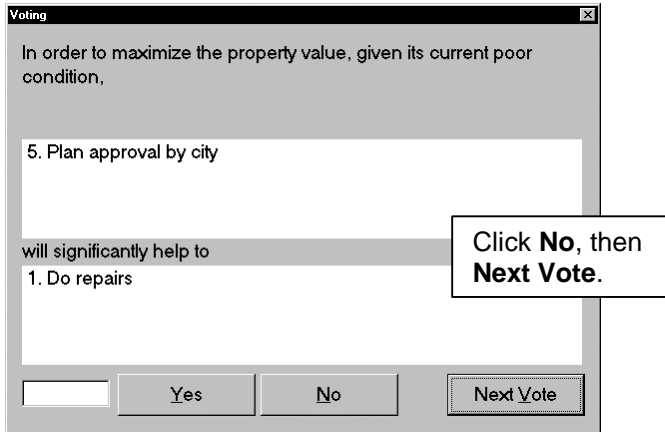


**Figure 3-17 Voting dialog box**

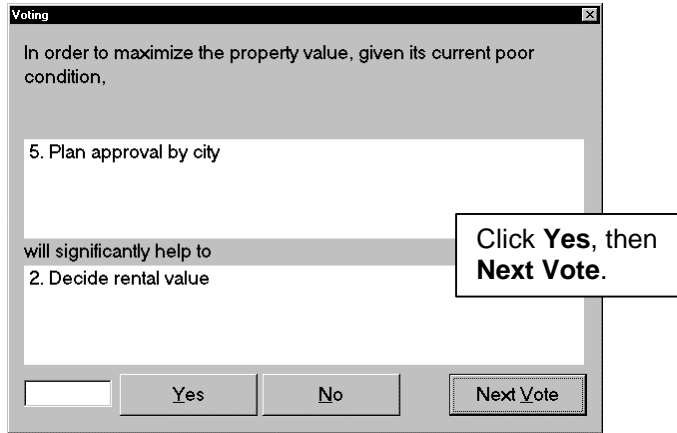


**Figure 3-18 Voting dialog box**

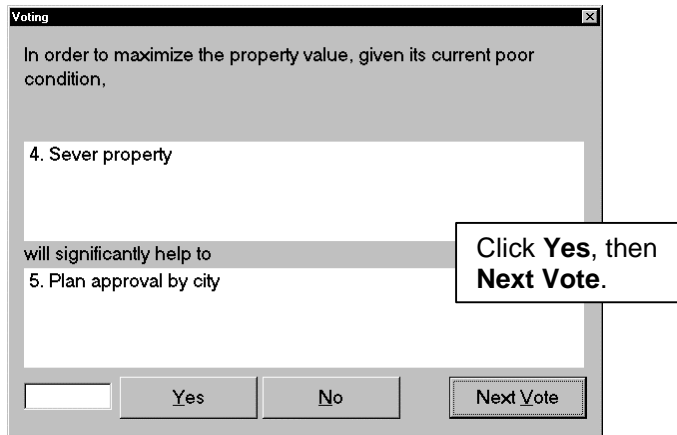
During our discussion of the relationships shown in figures 3-18 and 3-19, we realized that we did not know what type of repair work required city approval and what did not. Before deciding on the relationship, we phoned a friend who had recently done some major renovations on his house to clarify the requirements.



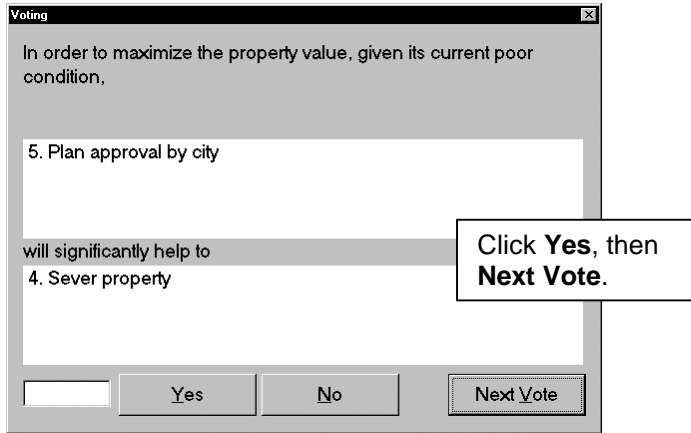
**Figure 3-19 Voting dialog box**



**Figure 3-20 Voting dialog box**



**Figure 3-21 Voting dialog box**



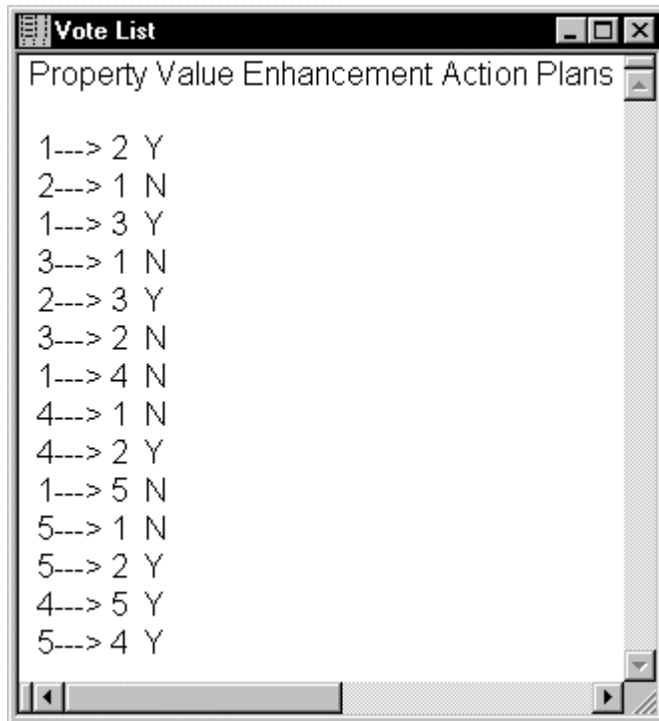
**Figure 3-22 Voting dialog box**

These are all the votes required to complete the ISM. Concept Star displays a panel similar to figure 3-23.



**Figure 3-23 ISM Complete**

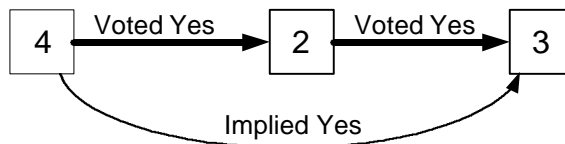
To see the votes that have been entered, pull down the **ISM** menu and select **Vote List** or click the **Vote List** toolbar button (figure 3-24).



**Figure 3-24 Example Vote List view**

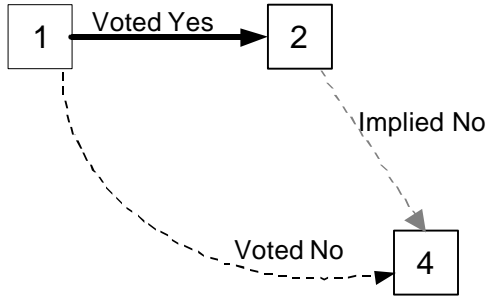
Note that not all relationships need to be entered. The Concept Star uses Transitive Logic to imply some of the relationships. For example the relationships 4--->3 and 2--->4 were not entered.

The relationship 4--->3 is an implied 'YES' because the relationship 4--->2 is 'YES' and the relationship 2--->3 is 'YES' (figure 25).



**Figure 3-25 Implied Yes Vote**

The relationship 2--->4 is an implied 'NO' because the relationship 1--->2 is 'YES' and the relationship 1--->4 is 'NO' (figure 26). (If 2--->4 was 'YES' then 1--->4 would be 'YES')



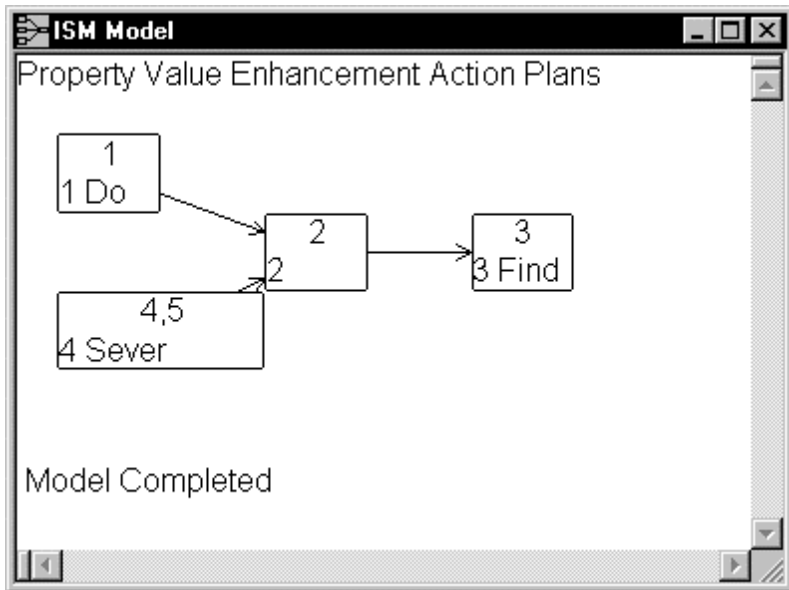
**Figure 3-26 Implied No Vote**

Using similar logic, the relationships 3--->4, 2--->5, 3--->5, and 5--->3 are implied 'NO'.

In this simple 5-element example, we discussed and voted on only 14 of possible 20 relationships for a time saving of about 30%. In a more typical 20 element ISM, you may need to vote on only 40% of the relationships, the rest being implied using transitive logic. This results in a timesaving of about 60%.

### 3.2.3 The ISM Model

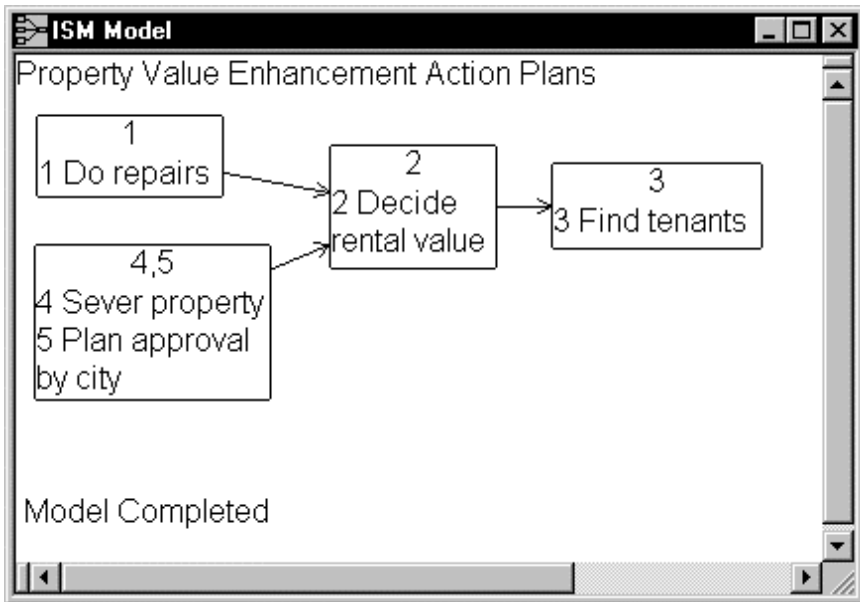
To display the ISM model you have just created, pull down the **ISM** menu and click **ISM Model** (figure 3-27) or use the **ISM Model** toolbar button.



**Figure 3-27 Example Unformatted ISM Model view**

An ISM model is a simplified relationship diagram. Arrows represent relationships that exist (were voted 'YES'). The ISM model does not display arrows for relationships that can be implied by transitive logic. For example, the relationship 1--->3 was voted 'YES' but is not shown as a direct arrow. This is because there is an indirect path showing the relationship exists (1--->2 and 2--->3). Ideas that are related in a circular fashion (ex. 4--->5 and 5--->4) are displayed in the same box. These two simplifications make the model easier to understand.

Enlarging the boxes so that each idea is fully displayed and positioning boxes appropriately also make an ISM model easier to understand (figure 3-28). To change the size of a box, drag the corner of the box. To move a box to a new position, drag the center of the box.



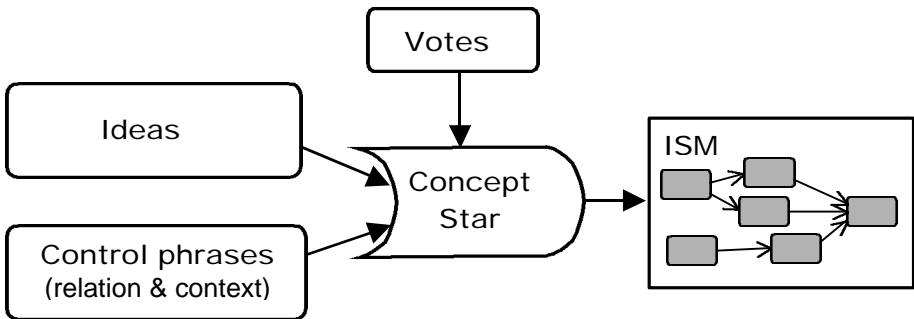
**Figure 3-28 Example Formatted ISM Model view**

### 3.3 Discussion of ISM

After we created and displayed our Property Value Enhancement Action Plans model, the group needed a chance to look at it and think about it before discussing it. So we took a coffee break. After coffee, we decided that our most important goal was to find tenants. Since this required doing repair work, we would hire a contractor to do the minimum required repairs to first get one of three apartments ready to rent. Once this was rented, we would fix the remaining apartments - one at a time. We also decided that once the apartments were rented, we would use the income generated to complete the repairs of a less critical natural. We also decided that repair work should be an ongoing process and was best done while the building was occupied and we were receiving rental money. The other option (sever property) was decided to be too expensive at this point in time.

## 4 Using Concept Star

Figure 4-1 illustrates the basic process of constructing an ISM using Concept Star.



**Figure 4-1 Constructing an ISM using Concept Star**

There are 2 main activities involved.

1. Entering text information. This information is the set of Ideas used to construct the model, the control phrases (*Context* and *Relation*) used to guide discussion and voting, and optional information (Title and Trigger Question). See section 4.1.
2. Creating the Model. This involves voting on the relationship between pairs of ideas to produce the model. The model is then displayed and formatted for discussion and changed if necessary. See section 4.2.

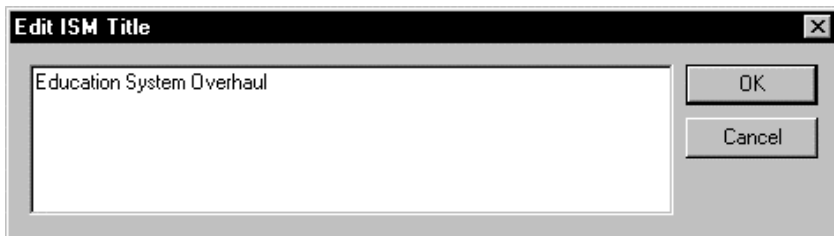
After the model has been completed, it can be printed and transferred to other applications for presentation and documentation purposes. See Section 4.3 for further information.

### 4.1 Entering Text Information

#### 4.1.1 Entering and Editing ISM Title

Pull down the **ISM** menu and select **ISM Title** or click the **Edit Title** toolbar button. This opens the '**Edit ISM Title**' dialog box (figure 4-1). Type the title of this ISM in the edit box and click **OK**. Click **Cancel** to close this dialog box without changing the title. In the edit box, you can use the right mouse button to access the **Edit** menu commands (**Undo**, **Cut**, **Copy**, and **Paste**).

Unless formatting changes were made the ISM title is shown on the Element List view, Vote List view, and ISM Model view.



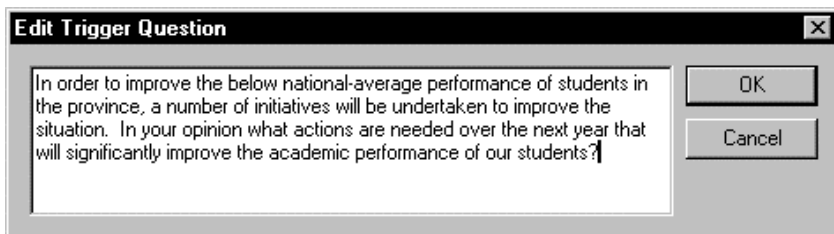
**Figure 4-2 Edit ISM Title dialog box**

### ***4.1.2 Entering and Editing Trigger Question***

Pull down the **ISM** menu and select **Trigger Question**. This opens the '**Edit Trigger Question**' dialog box (figure 4-2). Type the trigger question used to generate ideas in the edit box and click **OK**. Click **Cancel** to close this dialog box without changing the trigger question. In the edit box, you can use the right mouse button to access the **Edit** menu commands (**Undo**, **Cut**, **Copy** and **Paste**).

Unless formatting changes were made, the Element List view displays the trigger question. The ISM Model view and Vote List view do not display the trigger question.

The Trigger Question is not actively used by Concept Star, but is saved for reference and documentation after the ISM process is complete.



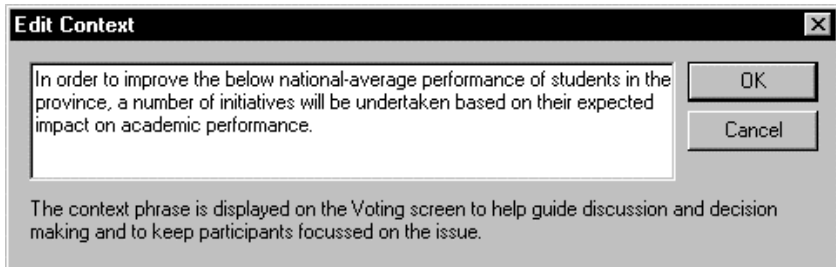
**Figure 4-2 Edit Trigger Question dialog box**

### 4.1.3 Entering and Editing Context

Pull down the **ISM** menu and select **Context** or click the **Edit Context** toolbar button. This opens the '**Edit Context**' dialog box (figure 4-3). In the edit box, type the *Context* in which the idea relationships are to be determined and click **OK**. Click **Cancel** to close this dialog box without changing the *Context*. In the edit box, you can use the right mouse button to access the **Edit** menu commands (**Undo**, **Cut**, **Copy** and **Paste**).

Unless formatting changes were made, the Element List view displays the *Context*. The ISM Model view and Vote List view do not display the *Context*.

The *Context* is displayed on the voting screen to help guide discussion and decision making and to keep participants focussed on the problem.



**Figure 4-3 Edit ISM Context dialog box**

#### 4.1.4 Entering and Editing Relation

Pull down the **ISM** menu and select **Relation** or click the **Edit Relation** toolbar button. This opens the '**Edit Relation**' dialog box (figure 4-4). In the edit box, type the *Relation* phrase to be used for comparing ideas and click **OK**. Click **Cancel** to close this dialog box without changing the *Relation*. In the edit box, you can use the right mouse button to access the **Edit** menu commands (**Undo**, **Cut**, **Copy** and **Paste**).

Unless formatting changes were made, the Element List view displays the *Relation*. The ISM Model view and Vote List view do not display the *Relation*.

The *Relation* is displayed on the voting screen to guide analysis and decision making. Proper choice of the *Relation* phrase is important since it determines the meaning of the ISM constructed.

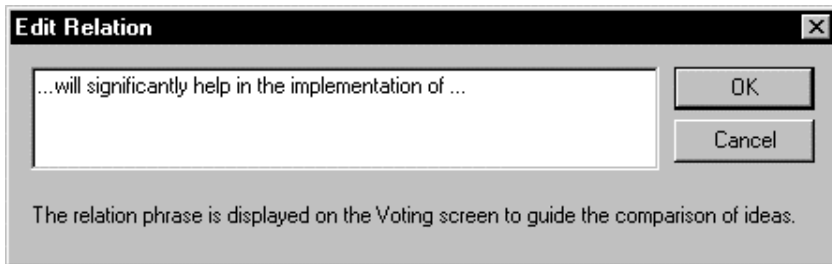
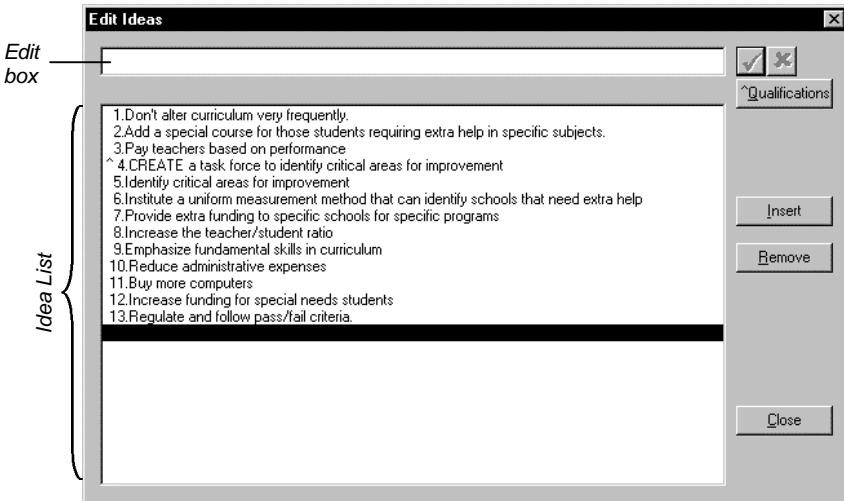


Figure 4-4 Edit ISM Relation dialog box

## 4.1.5 Entering and Editing Ideas

Pull down the **ISM** menu and select **Ideas** or click the **Edit Ideas** toolbar button. This opens the 'Edit Ideas' dialog box (figure 4-5).



**Figure 4-5 Edit Ideas dialog box**

The 'Edit Ideas' dialog box contains the following parts.

Edit box	Enter text for an idea here.
Idea list	Lists all the ideas entered. The selected idea is highlighted. Ideas are numbered automatically. A '^' symbol displayed immediately before the idea number means that this idea has qualifications (see idea 4 above).
Enter Text button ✓	Adds the idea to end of the list or changes text of the selected idea. This button is available only when the text in the Edit box has changed.
Cancel Text button ✕	Cancels changes made to idea text. This button is available only when the text in the Edit box has changed.
Qualifications button	Opens the Idea Qualification dialog box. This is used to enter, view, and edit qualifications for the currently selected idea. The Idea Qualification dialog box is similar to the 'Edit ISM Title' dialog

box. This button is not available when the text in the Edit box has changed.

Insert button	Inserts a new idea before the selected idea.
Remove button	Deletes selected idea (and all votes involving this idea). This button is not available when the text in the Edit box has changed.
Close button	Closes this dialog box and updates all ISM views. This button is not available when the text in the Edit box has changed.

#### *4.1.5.1 Entering and Editing Idea Text*

To enter a new idea at the end of the Idea List, select the blank line at the end of the Idea List as shown in figure 4-5. Then type the text for the idea in the edit box. You can use the right mouse button to access the **Edit** menu commands (**Undo**, **Cut**, **Copy** and **Paste**). Press <Enter> or click the Enter Text button (✓) to add the idea to the end of the list. The ideas are numbered automatically. Note that once you change the contents of the edit box, only the Enter Text button (✓), Cancel Text button (✖), and **Insert** buttons are valid.

To select an idea, click it in the Idea List.

To edit a previously entered idea, select it from the 'Idea List' and make the changes in the 'Edit box'. Press <Enter> or click the Enter Text button (✓) to modify the idea. Press the Cancel Text button (✖) to not change the idea.

To add or edit a qualification for the selected idea, click the **Qualifications** button. This opens the Idea Qualification dialog box. This dialog box is similar to the 'Edit ISM Title' dialog box.

To insert a new idea before the selected idea, click the **Insert** button. The new idea will contain the text in the 'Edit box' and the current qualifications.

To delete the selected idea, click the **Remove** button. Deleting an idea will also cause all votes associated with this idea to be deleted.

When you are finished entering ideas, click the **Close** button. All ideas and qualifications are displayed in the Element List View. The ideas are also shown in the ISM Model View. At anytime you can add, insert, edit, or delete ideas using the 'Edit ISM Elements' dialog box.

**Tip:** It is good practice to enter the most important ideas at the top of the idea list as explained in the voting section.

#### *4.1.5.2 Changing order of ideas after they have been entered*

To change the order of ideas in the list, do the following:

1. Insert a new blank idea at the desired position.
2. Copy (**<Ctrl>C**) text from the idea to be moved and paste (**<Ctrl>V**) it in the new idea position. If the idea has qualifications, copy that also. The right mouse button can also be used to access the **Copy** and **Paste** commands.
3. Delete the copied idea.

Note: When you move an idea, any votes that involve this idea will be lost. Votes not involving this idea are preserved.

## **4.2 Creating the Model**

The ISM model is constructed during the Voting activity. This is frequently done in a group with participants discussing and voting on the relationship between the pairs of ideas as they are presented. The discussions can be quite energetic and lead to increased group understanding and buy-in of proposed solutions.

Occasionally, the discussion during this phase may indicate that an idea is not well defined or contains more than one idea and needs to be modified (see “Editing Ideas after Voting has Started”).

When the Voting activity is complete, the resulting ISM model is displayed for discussion (see “Viewing and Formatting the ISM Model”). If discussion and further analysis indicate that a relationship (vote) needs re-evaluation, it can be done by deleting the vote (see “Deleting a Vote”) and then re-voting.

### 4.2.1 Voting

Voting constructs the ISM model. Concept Star presents a series of statements on whether or not the relationship exists between pairs of ideas. For each statement, the group discusses the issue and decides on either a Yes or No answer. The answer or vote is entered into the computer. The computer then presents the next pair of ideas. As the relationship information is entered into the computer, it makes logical inferences about the existence of the relationship for other pairs of ideas (transitive logical inferences). This allows the ISM model to be constructed in much less time than if all relationships were required to be entered. A time saving of 60% or better for a 20 element ISM model is typical.

To start voting, pull down the **ISM** menu and select **Voting**. This opens the 'Voting' dialog box (figure 4-6).

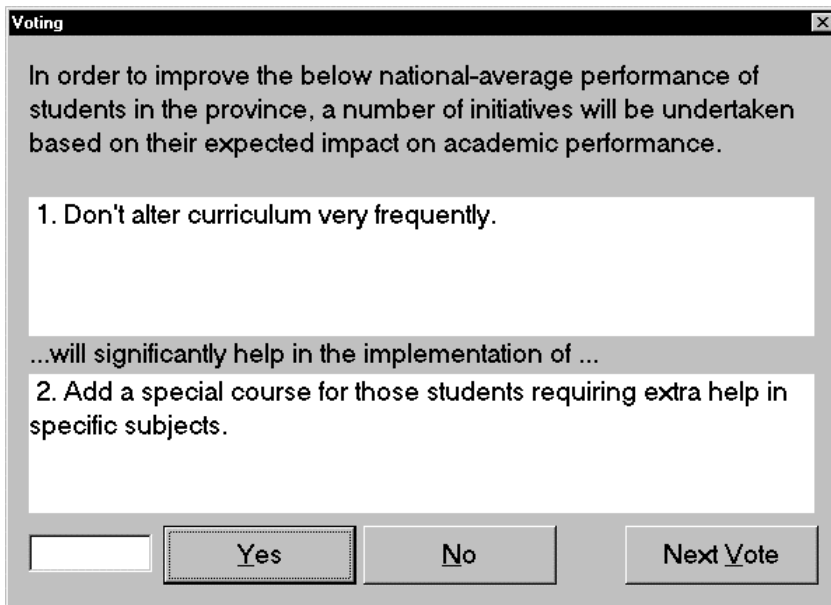


Figure 4-6 Voting dialog box

The 'Voting' dialog box displays the statement used to determine the relationship between a pair of ideas. The relationship is entered by clicking either the **Yes** or **No** button or pressing <y> or <n> on the keyboard. When the group is satisfied with the decided relationship for this pair of ideas, click the **Next Vote** button or press <v> to display the next pair of ideas that require voting.


**Tip:** When answering the relationship question, remember:

- The indicated relationship is in the forward direction only. The other direction is not to be considered or discussed at this time.
- The relationship should be significant for it to deserve a **Yes** response.


The program always queries the idea relationships starting with the lowest numbered ideas. Thus the relationships between lower numbered ideas are more likely to be determined by actual votes than the relationships between higher numbered ideas. The relationships between the high numbered ideas are more likely to be implied using transitive logic.

When the relationship between all pairs of ideas has been determined (either by direct vote or implied from other votes), the ISM model is complete and the Voting dialog box will be closed.

#### *4.2.1.1 Continue Voting at a Later Time*

To quit the voting activity before the ISM model is complete, close the Voting dialog box by clicking the close button  in the top right corner of the dialog box. Whenever the Voting dialog box is closed, the ISM model is computed using the entered votes and displayed in the ISM Model view (pull down the **View** menu and select **ISM Model** or click the **ISM Model** button on the toolbar). To resume voting, pull down the **ISM** menu and select **Voting**. Voting will resume with the same pair of ideas that was presented when voting was paused (unless you deleted a vote).

#### *4.2.1.2 Saving the Model during Voting*

To save the partially constructed ISM model, close the voting dialog box (click the close button  in the top right corner), then save the model (pull down the **File** menu and select **Save** or **Save As...**).

**Tip:** It is recommended that the model be saved often during an important ISM session in case of power failure or other unforeseen event.

### 4.2.1.3 Changing a Vote

To change a vote after you have gone to the next pair of ideas, close the voting dialog box, then from the menu bar select **ISM** then **Delete Vote**. Delete the vote you wish to change, close the 'Delete Vote' dialog box, and re-select 'Voting'.

## 4.2.2 Viewing and Formatting the ISM Model

The ISM model can be viewed at any time while it is being constructed. Just close the Voting dialog box by clicking the **Close**  button in to upper right corner of the dialog box. Then display the ISM Model view by pulling down the **View** menu and selecting **ISM Model** or by clicking the **ISM Model** button on the Toolbar. Using the relationship votes, Concept Star computes the ISM model and displays it as shown by the example in figure 4-7. Formatting the model, described below, makes it easier to understand and discuss (figure 4-8).

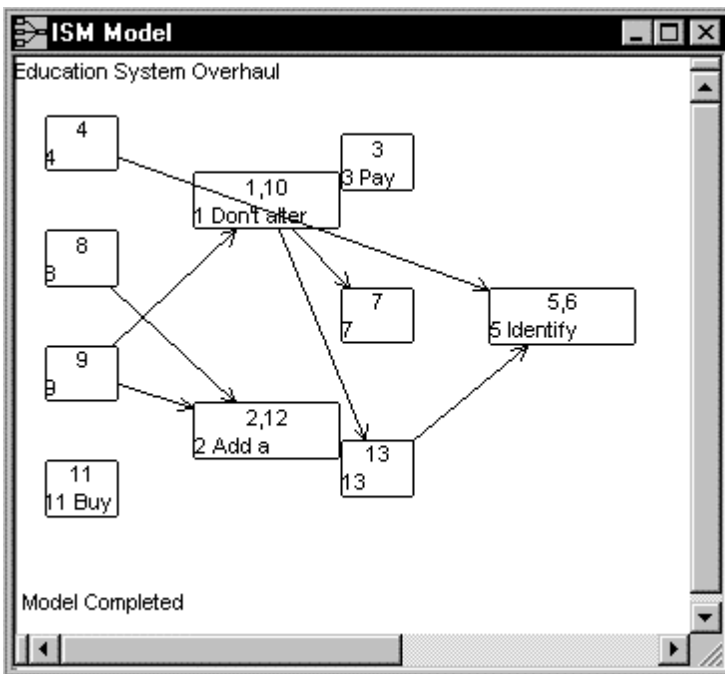
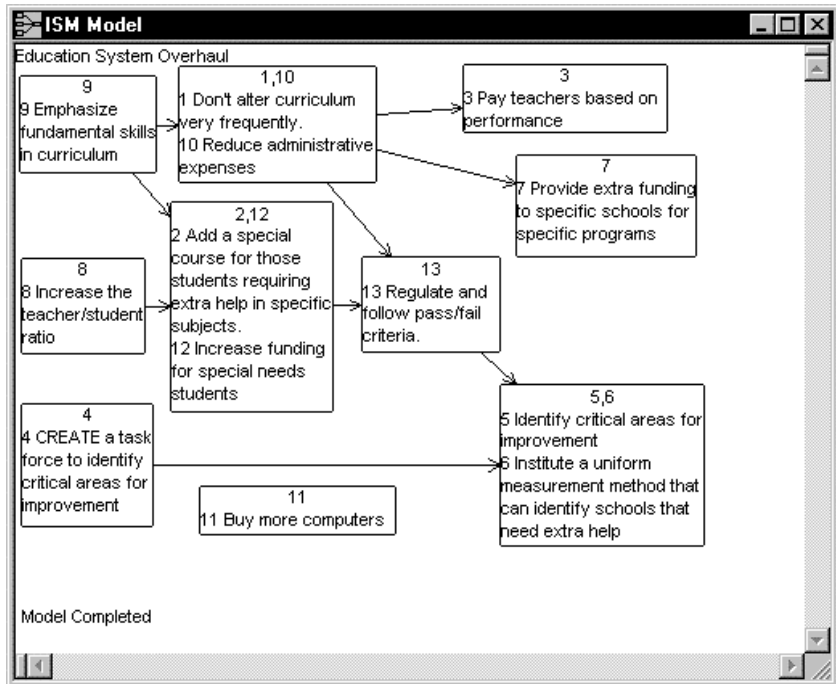


Figure 4-7 ISM model before formatting



**Figure 4-8 ISM model after formatting**

The ISM Model shows the links, or relationships, between the ideas. Most ideas are displayed in an individual box. However, ideas that are linked in a circular fashion are displayed in the same box. For example, the votes for ideas 1 & 10 in the above example indicate that **Idea 1 → Idea 10** and **Idea 10 → Idea 1**. Similarly the votes for ideas 2 & 12 indicate that **Idea 2 → Idea 12** and **Idea 12 → Idea 2**.

#### 4.2.2.1 Moving Boxes

To move a box, drag the center of the box to the new location. The ISM model is easier to understand if the boxes are positioned such that the arrows showing the links between the ideas do not cross excessively.

#### 4.2.2.2 Resizing Boxes

To change the size of a box, drag a corner of the box. When a box is large enough, it will display the text of the ideas contained in the box. To display the re-size handles for a box, click inside the box.

### 4.2.2.3 Changing Font

To change the font of the text, pull down the Format menu and select Font. The font will be changed for the Element List view and Vote List view, as well as the ISM Model view.

### 4.2.2.4 Change Line Thickness

To change the width of the lines (arrows and box sides) pull down the Format menu and select Pen Width.

### 4.2.2.5 Change Links Between Boxes

To change a link in the ISM Model, you need to change 1 or more votes. To do this, you first delete the required votes, and then re-vote (see "*Deleting Votes*").

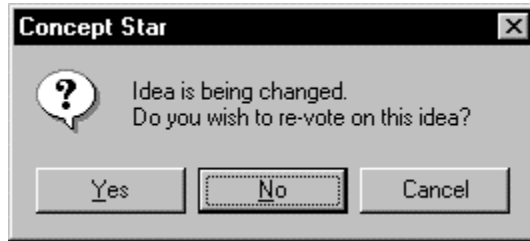
## 4.2.3 Editing Ideas after Voting has Started

The process of editing ideas after voting has started is the same as entering and editing ideas before voting (see "Entering and Editing Ideas"). However, since votes are associated with ideas, care must be taken such that:

- If the meaning of an idea is altered, it probably should be re-voted on.
- Votes are not accidentally deleted.

It is recommended that the ISM model be saved before editing the ideas. (Pull down the **File** menu and select **Save** or **Save As**.)

When changing the text or qualifications of an idea, you need to know whether the change affects the meaning of the idea. If the text or qualifications of an idea are changed after the idea has votes associated with it, Concept Star displays the panel shown in figure 4-9. If the meaning of the idea has not changed, click **No**, and the votes associated with this idea will be kept. If the meaning of the idea has changed, click **Yes**, and all votes associated with this idea will be deleted. In this case, the relationships involving this idea will need to be re-voted on in order to complete the ISM model.



**Figure 4-9 Idea is being changed.**

When an idea is removed from the idea list, all votes attached to this idea are deleted permanently. If the ISM model was not saved before removing the idea, the only way to recover the deleted votes is to re-vote on them.

If you move an idea from one location in the idea list to another, any votes that involve this idea are deleted permanently. Votes not involving this idea are not affected.

Adding a new idea to the end of the idea list or inserting a new idea within the list does not change the integrity of the ISM model produced so far. Inserting an idea only re-numbers the ideas.

If you have chosen to delete an idea, move an idea, or re-vote on an idea, some relationships for other ideas may now require voting. (This would happen for relationships that were previously implied from the deleted votes using transitive logic.)

When you have finished editing the ideas, click the **Close** button. The ISM model will be updated automatically. If the model is incomplete, pull down the **ISM** menu and select **Voting** to complete it.

#### ***4.2.4 Deleting Votes***

To delete one or more votes, pull down the **ISM** menu and select **Delete Vote**. This opens the 'Delete Votes' dialog box (figure 4-10).

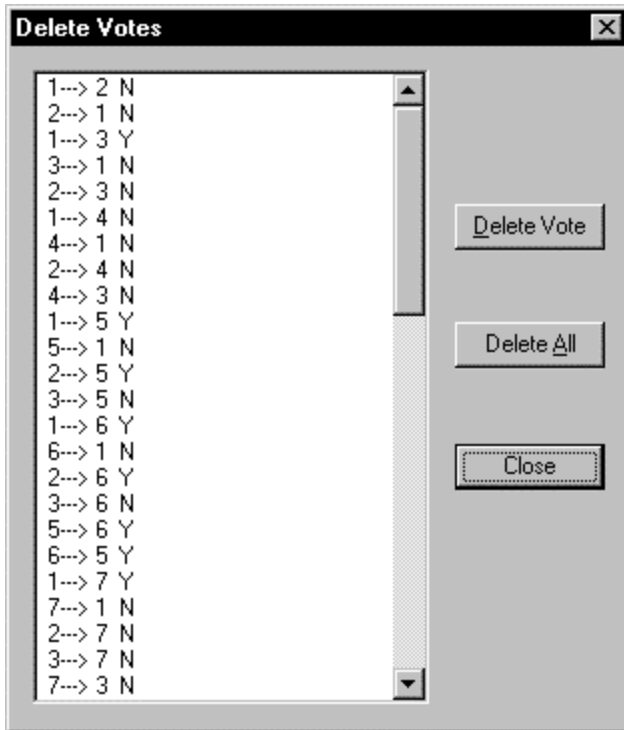
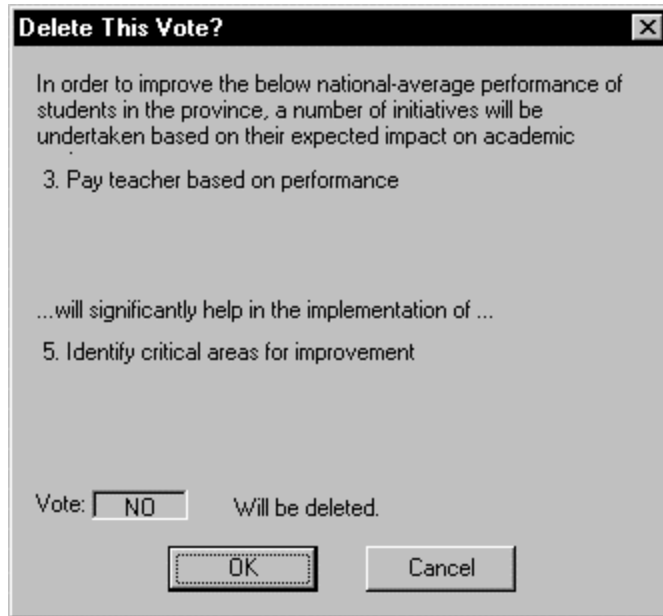


Figure 4-10 Delete Votes dialog box

#### 4.2.4.1 Deleting a Vote

To delete a vote, select the vote you wish to delete and click the **Delete Vote** button. This will open a confirmation dialog box (figure 4-11).



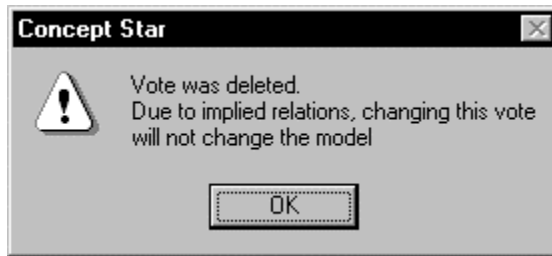
**Figure 4-11 Confirmation dialog box for deleting a vote**

If this is not the vote you wish to delete, select **Cancel** and you will be returned to the 'Delete Vote' dialog box.

If you select **OK**, the vote will be deleted and the panel shown in either figure 4-12 or figure 4-13 will be displayed. Figure 13 is displayed if deleting the vote means that this relationship needs to be re-voted on. Figure 14 is displayed when the relationship whose vote was deleted is also implied by other votes using transitive logical inferences. Deleting this vote does not change the ISM model and re-voting is not required.



**Figure 4-12 Vote was deleted**



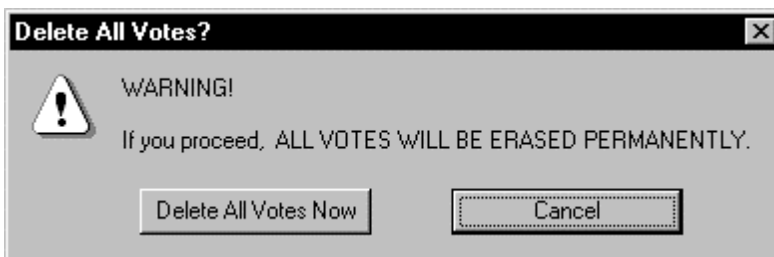
**Figure 4-13 Vote was deleted**

If you wish to change a relationship (vote) that is implied by other votes using transitive logical inferences, you will need select and delete one or more votes so that the relationship is no longer implied. When this relationship is no longer implied, you would be able to vote on it. To determine which votes cause relationship to be implied, you will need to examine the ISM model and the vote list.

As you delete votes, the ISM model is updated automatically. When you are finished, click the **Close** button on the 'Delete Votes' dialog box. If the model is incomplete, pull down the **ISM** menu and select **Voting** to complete it.

#### *4.2.4.2 Deleting All Votes*

If you wish to delete all the votes and completely re-construct the ISM model, click the **Delete All** button on the **Delete Votes** dialog box (figure 4-10). This will open a confirmation dialog box (figure 4-14).



**Figure 4-34 Confirmation dialog box for Delete All Votes**

If you choose the **Delete All Votes Now** button, all of the votes used to construct the ISM model will be deleted permanently. No 'Undo' function is available. Click the **Cancel** button if you do not wish to erase all votes.

It is a good practice to make a backup copy of the current ISM model before deleting all votes

To make a backup copy of the model before deleting all votes:

1. Click **Cancel** to exit the **Delete All Votes** panel without deleting votes.
2. Click **Close** on the **Delete Votes** panel.
3. Pull down the **File** menu and select **Save** to save the current model.
4. Pull down the **File** menu and select **Save As...**
5. Enter a different file name such as 'newmodel.ism'.
6. Click **Save**.

This procedure causes Concept Star to work with the ISM model stored in the new file name. The original model is stored in the previous file name.

## **4.3 Incorporating the ISM *Information* into Other Documents**

### **4.3.1 *Printing***

#### **4.3.1.1 *Printing Element List***

To print the Element List, set the Element List view as the active window (pull down the **View** menu and select **Element List**), then pull down the **File** menu and select **Print**. Select **Print Preview** to see how the Element List would be printed.

#### **4.3.1.2 *Printing Votes***

To print the Vote List, set the Vote List view as the active window (pull down the **View** menu and select **Vote List**), then pull down the **File** menu and select **Print**. Select **Print Preview** to see how the Vote List would be printed.

#### **4.3.1.3 *Printing ISM Model***

To print the ISM model, set the ISM Model view as the active window (pull down the **View** menu and select **ISM Model**), then pull down the **File** menu and select **Print**. Select **Print Preview** to see how the ISM model would be printed.

### **4.3.2 *Exporting to Other Applications***

For presentation and documentation purposes, the ISM model, element list and vote list can be transferred from Concept Star to other applications such

as MS Word<sup>8</sup>, PowerPoint<sup>8</sup>, Corel WordPerfect<sup>9</sup> or Presentations<sup>9</sup>. This is done using the Windows clipboard. The **Edit** menu **Copy** command is used to copy information from the active view (Element List, Vote List, or ISM Model) in Concept Star to the Windows Clipboard. In the other application, its **Paste** command is used to paste information from the Clipboard.

#### *4.3.2.1 Transferring Element List*

To transfer the Element List, make the Element List view the active window (pull down the **View** menu and select **Element List**), then pull down the **Edit** menu and select **Copy**. All information displayed in the Element List view is copied to the Windows clipboard. This information can then be pasted into other applications that accept text data such as Word<sup>8</sup>, Excel<sup>8</sup>, WordPerfect<sup>9</sup>, WordPad<sup>8</sup>, or NotePad<sup>8</sup>.

#### *4.3.2.2 Transferring Votes*

To transfer the Vote List, make the Vote List view the active window (pull down the **View** menu and select **Vote List**), then pull down the **Edit** menu and select **Copy**. All information displayed in the Vote List view is copied to the Windows clipboard. This information can then be pasted into other applications that accept text data such as Word<sup>8</sup>, Excel<sup>8</sup>, WordPerfect<sup>9</sup>, WordPad<sup>8</sup>, or NotePad<sup>8</sup>.

#### *4.3.2.3 Transferring ISM Model*

To transfer the ISM model, make the ISM Model view the active window (pull down the **View** menu and select **ISM Model**), then pull down the **Edit** menu and select **Copy**. All information displayed in the ISM Model view is copied to the Windows clipboard. This information can then be pasted into other applications that accept picture data such as Word<sup>8</sup>, PowerPoint<sup>8</sup>, Excel<sup>8</sup>, WordPerfect<sup>9</sup>, Corel Presentations<sup>9</sup>, WordPad<sup>8</sup> or Paint<sup>8</sup>.

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<sup>8</sup> Trademark Microsoft Corporation

<sup>9</sup> Trademark Corel Corporation

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