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http://openlearn.open.ac.uk/mod/oucontent/view.php?id=399387&section=3.2

The constructivist model of learning

This model of learning concentrates on what happens during the process of learning. It identifies the central role of concepts and understandings that learners bring to new learning and the way in which new and old ideas interact. Its starting point is that learners use their existing frameworks of understanding to interpret what is being taught, and that these existing ideas influence the speed and effectiveness with which new ideas are learned. Learners are actively involved in processing what is taught, and as a result, the same 'input' is perceived differently by different learners and may well have quite different outcomes.

This model of learning has been developed from studies of the kinds of learning required in higher education, and dissatisfaction with the acquisitive approach in this context. Its primary focus is on learning as a way of *changing one's understanding*, in particular coming to understand some aspect of an academic field of study (Ramsden, 1988). The learning process is seen as a product of the relationship between three interconnecting factors:

- What students already know or can do.
- What students think the subject they are studying is about and what it takes to learn it.
- What teachers do, the tasks they set and the way these are interpreted by students.

A system map can help clarify this approach to learning. Such maps are a way of showing the component parts which interact to create a system that is greater than the sum of its parts. Although the component parts may interact, it is not customary to indicate this by lines or arrows on this particular type of diagram. Thus although there are strong interactions between learners, teachers and the teaching content and media, these are not shown in the system map of a constructivist approach to learning in Figure 2.

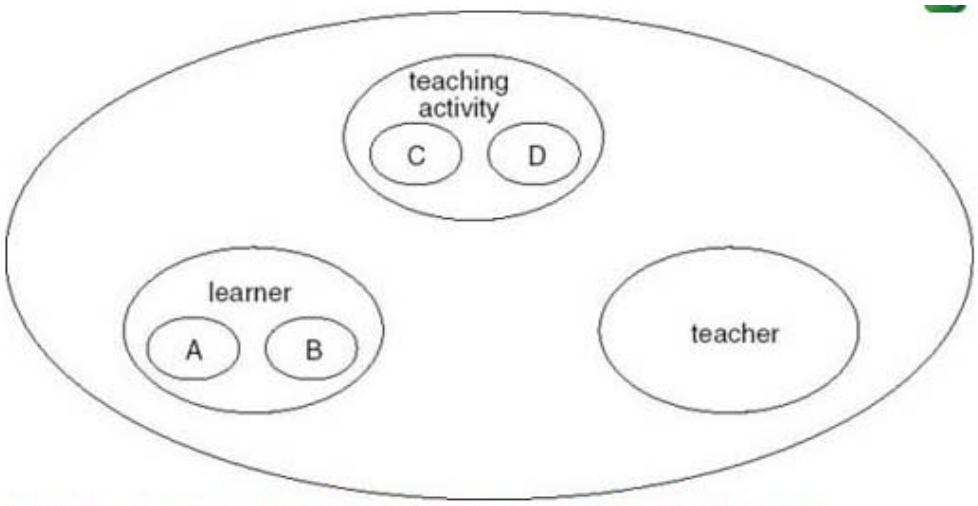

Figure 2 A system map of key elements in a constructivist model of learning

Activity 5

Task 1

Before you read the explanatory text for Figure 2, try to identify what the components within the 'learner' and 'teaching activity' subsystems labelled with capital letters A, B, C and D stand for.

Task 2

Note that the boundary round the three components or subsystems in the map separates them from the area outside, which is the environment. The environment contains items which influence the interactions within the boundary of the system. As you look at Figure 2, think about appropriate items that could be shown in the environment.

You might like to use the unit forum to share and discuss your response to this activity with other OpenLearn users.

My answers to Task 1 in Activity 5 are as follows.

The components in the 'learner' subsystem (labelled A and B in Figure 2) represent:

- the learner's existing knowledge, skills and attitudes
- the learner's ideas about how to learn the subject matter of the teaching.
- The components in the 'teaching activity' subsystem (labelled C and D in Figure 2) represent:
- the content of what is taught
- the methods and media used to teach it.

Your components may have been different, while it would also have been possible to indicate components for the teacher subsystem, because teachers also differ according to their existing knowledge, ideas and practices, including their ideas about teaching and learning their subject.

Task 2 concerned whether you could identify influences from the environment. Two such components in the environment could be the institution in which the teaching/learning transaction takes place, and the Examination Board or Qualification Standards which govern the award of credit for learning. As both the Primer and Diagramming packs suggest, the purpose for which the map is created will determine whether components are placed inside or outside the boundary. For my purposes here, attention is focused on the interaction between who is learning, who is teaching and what the content and methods of the teaching are (including the media used). For this reason, I would place the institution and other elements in the environment outside the system, though they clearly do influence the interactions inside the system. You may want to have other elements in the environment of your system map.

For teaching which is based on a constructivist model of learning, the starting point is to help students integrate new learning with what they already know. This will very likely mean that existing ideas will have to change, sometimes extensively, especially if the new learning conflicts with existing assumptions and attitudes. The danger otherwise is that we do not realise the contradictions between old and new learning, and existing ways of thinking will tend to undermine new learning.

This also means that we need to be aware of how new learning affects what we already know and do. We need to engage in activities which really do foster the new understanding they are aiming for. Without this emphasis on understanding ideas for ourselves and in our own words, study can lead to patchy or superficial understanding. Overemphasis on memorising also tends to take attention away from the effort of understanding.

One of the ways in which understanding develops is by trying to work out the structure of what is being communicated, so that we can see what the relationship is between the different parts and make sense of the whole. As Laurillard has commented, ‘The same information structured differently, has a different meaning’ (Laurillard, 1993). We all know for example, the ‘catch’ drawings where we can see the same pattern of dots and lines two ways, depending on the structure we give it. Figure 3 is an example. It can be seen either as a young girl or an old woman, depending on which structure we impose on the information.

Figure 3 Ambiguous picture, first drawn by cartoonist W.E. Hill in 1915 and reprinted in the psychological literature by Boring (1930). It can be viewed as a head-and-shoulders portrait of either an old woman or a young woman. (If you

Figure 3 Ambiguous picture, first drawn by cartoonist W.E. Hill in 1915 and reprinted in the psychological literature by Boring (1930). It can be viewed as a head-and-shoulders portrait of either an old woman or a young woman. (If you have difficulty seeing both, it might help to know that the old woman is in profile and looking to the left; the young woman, also looking left, is turned away from the viewer. The old woman's left eye the young woman's left ear. The old woman's mouth is the young woman's necklace. The old woman's nose and nostril are respectively the young woman's cheek and jaw.)

Activity 6 is an opportunity to try out a learning activity designed to build your understanding of one of the readings in this unit by sorting out its structure and component parts. It also requires that you integrate what you already know with what may be new in what is being communicated.

Activity 6 Understanding

Choose one of the readings from this unit. As you work through it, set out its structure (the main themes/arguments and their relationship to sub-themes, examples, etc.) in diagrammatic form using the following steps as a guide.

1. First, spend a few minutes noting down what you already know about the topics covered in your chosen piece of text. Then write down one or two questions of your own that you would like to have answered or discussed? (this helps you clarify what you want to understand).
2. Next, draw a diagram to show the main topics and their relationship to each other. Do this first by *scanning* the text to get an overall idea of the main headings and the way they are

organised. Set out this organisation as a first draft of your diagram of the structure of the text. What questions does the author seem to be interested in? Make a note of these.

3. Then return to the text and skim through it by reading the opening and closing paragraphs, and the first sentence of each paragraph in the main body of the text. This will give you more information about content, some of which may need to be added to your draft diagram. (These two steps will help you summarise the author's structure).
4. Now you are ready to read through the text, stopping to re-read wherever you feel you need to check up on meaning or details. What answers are you getting to the questions you posed at stages 1 and 2? Make a note. Continue to work on your diagram until you feel it is good enough.
5. Return now to your notes on your existing ideas or attitudes on this topic. What do you now know differently? What if anything has changed as a result of study of your chosen piece of text? (These two stages make you reflect on your understanding).