



SWIM2 teaching scenarios

SWIM - Streaming Webbased Information Modules 



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Reading instructions

The SWIM2 role-playing game is part of the larger Learning Objects Web project (working title) sponsored by Denmark's Electronic Research Library. The purpose of Learning Objects Web is "...*first and foremost to produce an international version of SWIM in order to reach more users. Secondly, we intend to develop a web application that can be used by students for managing research papers and projects and integrate the information search process in a phase oriented model managed by milestones*". (www.learningobjectsweb.dk 1 December 2005)

The first part of *SWIM2 Teaching Scenarios* is constituted by a set of examples on how you can use SWIM2 in different teaching and counselling scenarios. The examples are structured according to the pedagogical model used at Aalborg University Library for planning and evaluation of library courses. The document is dynamic in the sense that more teaching scenarios – i.e. experiences with using SWIM2 - will be added over time and made available at www.learningobjectsweb.dk.

Example 1: Group instruction of 2nd semester students from the faculties of engineering, science and medicine.

Example 2: Group instruction of 2nd semester students from the faculty of social sciences – basic study programme.

Example 3: Group instruction of 2nd semester students from the faculty of social sciences, including short reflection exercises.

Example 4: A professional postgraduate teacher training workshop for lecturers

Example 5: Group instruction of 4th semester Diploma in Business Administration (HD).

Example 6: Supporting thesis students

Example 7: Information counselling sessions with the library's information specialists ordered by students.

The second part is a brief description of the SWIM2 concept and of the pedagogical tool for planning and evaluating courses. If you wish to read more about the SWIM2 concept – its theoretical background, structure and narrative elements - we recommend that you read *The SWIM2 Concept* which is also available at www.learningobjectsweb.dk.

1.0 Teaching with SWIM2

In the following, we will give you examples of pedagogical considerations regarding teaching with SWIM2, and of how you can use the programme in teaching and counselling. The examples are intended as inspiration only, as we recommend that the individual teacher or counsellor adapt the use of SWIM2 to his/her own pedagogical context.

The examples are structured according to the pedagogical relation model (Hiim & Hippe 1997) in order to present a holistic approach to the didactical and methodical planning. Read about the model in the second part.

Pedagogical considerations when teaching with SWIM2

SWIM2's primary target group is students in the early semesters in higher education (1st semester to bachelor). However, experiences with SWIM1 have shown that the programme also can be used above bachelor level, as well as at upper secondary school level.

Secondary target groups are groups of staff that are in touch with the students' educational development such as teachers, counsellors, information specialists/librarians, who can use SWIM2 to gain insight and practice counselling sessions with student study groups.

In our experience, SWIM2 stands out as a particularly useful tool when applied in a blended learning scenario concerning the information search process in project- and group work. The programme can be used to recommend an information search strategy, as well as to introduce a debate with the students. SWIM2 can also be used as a stand-alone product, where one player uses the programme independent of time and place.

SWIM2 is a flexible programme. It can be played in its entirety where the player receives constructive criticism on his/her choices at the game's final exam. It takes about 45 minutes to play SWIM2 in its entirety. It is also possible to play specific acts. However, due to technical reasons, you cannot get an exam (constructive criticism) if you limit your use of the programme to one or two acts. In that case, it is up to the teacher to evaluate and discuss the choices with the students.

Although the following examples have all been structured according to the didactical relation model, they may differ somewhat in form as they have been created by different teachers.

Example 1: Group instruction of 2nd semester students from the faculties of engineering, science and medicine. Aalborg University Library - / information specialists Elsebeth Jeppesen and Gudrun Hansen.

Learning prerequisites:

- A. This group of students had some experience with project work as they had already handed in two projects. One learning prerequisite was therefore that they were able to recognize some of the phases of project work as introduced in SWIM and relate them to the information search process.
- B. Another prerequisite was that they had some, if only a little, knowledge of the library's homepage including how to search and request material in the library's database AUBOLINE.

Frame factors:

- A. The course was planned to last 3-3½ hour with max. 35 students per session.
- B. The course was optional which meant that announcing and describing the course was important. Thus the course was announced when they were introduced to the library at the commencement of study, and a link to the course description was added to the students' electronic course calendar.
- C. We aimed at placing the course as close to the students' project selection/group formation as possible, as it is our experience that more students show up if the course is placed in immediate connection to their project selection.
- D. Based on previous experience we decided to teach the course at a location close to where the students have their other courses, instead of inviting them to come to the library.
- E. There were two teacher/information specialists from the library.
- F. There were headphones for everybody. Max. 3 persons per PC.
- G. In order to qualify our teaching, we got familiar with their project themes.

Goal:

- A. Our goal was to make the students aware of, and recognize, the importance of being information literate, including acknowledgement and reflection regarding the connection between project work and information searching.
- B. Another goal was to translate SWIM2's theoretical framework into practice and knowledge.
- C. Thus, our goal was to initiate a process of reflection and to communicate factual knowledge.

Content:

- A. The selection of content was based on what the students needed in relation to their projects.
- B. The content was related to the students' needs instead of taking the library's various services as its point of departure.
- C. We stressed the importance of search strategies – i.e. to know what type of information you are looking for – and of selecting databases with relevance to their problem area.

Learning process:

- A. Generally speaking, the course was planned to be in line with the university's problem-oriented approach to learning and project work (group work, the student's situation as point of departure, active participation and reflection among the students).
- B. The course proceeded as part student participation and part teacher instruction.
- C. We chose to begin the course with a brief introduction to SWIM2, before the students sat down in small groups and played the game. Our intention was that they should discuss the

- choices between them. The session ended with a discussion of the game in relation to their previous experiences with project work / information searching.
- D. Then we went through SWIM – phase 2 – and introduced the relevant databases and materials. We tried to stress the importance of keeping in mind which types of material and databases are relevant in the given phase.
 - E. Then we went through phase 3 discussing problem definition and search strategies.
 - F. Afterwards the students were placed in groups where they discussed search strategies relating to their problem area.
 - G. Using their problem areas and search terms as our point of departure, we went through the databases that we judged most relevant and how they should locate them (our intention was that they should try search the databases themselves, with our assistance, but there was not enough time).

Assessment:

- A. We asked the students to evaluate the course before they left using an online evaluation form. In doing so, we got their immediate response to the course (but nothing tangible about what they had actually learnt).
- B. 3-3½ hours seem like a long time for the students to work with information searching. However, a lot of the students were enthusiastic about SWIM2, but stressed the necessity of theory being turned into practice by means of concrete examples. Thus, it would be extremely difficult to cut down on the time factor if there is to be any room left for dialogue.

Example 2: Group instruction of 2nd semester students from the faculty of social sciences – basic study programme. Aalborg University Library / information specialists Bente Lope and Hanne G. Møller.

Learning prerequisites:

- A. That the students had some experience with project work
- B. The students should have prior experience with the project process in order to be able to reflect on the phase structure of SWIM2.

Frame factors:

- A. We have three hours at our disposal
- B. The course is scheduled as an integral part of the student's method course.
- C. A classroom equipped with computers for 25 students.
- D. Two teachers/information specialist from the library.
- E. Headphones for everybody. Max. three students per computer.
- F. With regards to our own qualifications: We had played SWIM2 a couple of times and read *The SWIM2 Concept*, as well as attended a project day at the library where the SWIM developers went through the details and changes in the new international version.

Goal:

- A. To improve the students' information literacy skills.
- B. To teach them a universal and appropriate strategy for information seeking.
- C. To inform them of the connection between project work and information seeking.
- D. To increase their awareness of when and how to use the library.

Content:

- A. The content is based on the students' needs and not the library's resources!
- B. The content is tailored to the study programme, subjects and the students' level of knowledge.
- C. Course content:
 - a. Introduction to the course and the game
 - b. The students play SWIM2
 - c. Break (10 min.)
 - d. Reflection and talk about the game
 - e. Survey of the phases + relevant resources + brief counselling
 - f. Conclusion and evaluation

Learning process:

- A. Instruction leading up to SWIM2.
- B. Dialogue-based reflection in plenum about the information search strategy of SWIM2.
- C. Active participation – small assignments/counselling.
- D. Inspiration through presentation of relevant databases and different types of material in relation to the phases of SWIM2.
- E. We asked the students to play SWIM2 in small groups, and went over the theoretical background phase by phase including search examples, strategy and sources between each of the five phases.

Assessment:

- A. We talked to the students by the end of the session as well as asked them to fill out an online evaluation form.
 - a. Several of the students had fun playing the game and were eagerly discussing their choices.
- B. The teachers discussed ways of improving the course.
 - a. Teacher A has experience with teaching SWIM2 in plenum, but thinks it works better when students get to play the game and discuss the choices in groups of 2-3 students from the same study group.
 - b. Teacher B has considered playing some of the phases only, and place more emphasis on keywords and direct counselling.

Example 3: Group instruction of 2nd semester students from the faculty of social sciences, including short reflection exercises. Aalborg University Library – Information specialist Finn Nyborg and development consultant Thomas Vibjerg Hansen.

Learning prerequisites:

- A. The students have had an introductory library course at the previous semester in the library's catalogue, Bibliotek.dk (national catalogue), Infomedia (Danish newspaper database), instruction and exercise. So far they have written one pilot project and one "real" project. Thus, they do have some experience that we can refer to in our teaching. The course is scheduled as an integral part of the students' method course, so we do not know if they are motivated.
 - a. As it turned out, the students had formed their study groups and some of the groups already knew their topic, while others were still looking for one. Most of them were in the early stage of phase one, others were in the selection- or search process of phase two.
- B. They were all supposed to have the necessary English language skills.

Frame factors:

- A. We have held two courses of two and half hours duration with 15-20 students per course. There were no planned breaks as the varied activities in the programme left room for getting up to stretch legs. Furthermore, it was a priority that the students got off early.
- B. It is the students second semester. The study programme has paid no special attention to placing the course in relation to the students' project work. The course takes place in a low-ceilinged computer lab where you can choose between poor ventilation or noise from the street below, both of which hinder the participants' and the teachers' energy and motivation. The room is not suited for teaching with focus on dialogue and student participation.
- C. Two teachers/information specialists from the library.
- D. There were headphones for everybody and plenty of computers for the individual groups (max. three per computer).

Goal:

- A. The immediate purpose was to get the students equipped for the information search process in project work - i.e. they needed an overall search strategy and identification of their information needs, help with identifying relevant information resources, as well as basic search tips.
- B. They were to experience information searching as a natural part of their project work using their idea development, problem delimitation and problem formulation as point of departure.
- C. They were to increase their information literacy skills by working with information searching as a natural part of their problem solution, and hence of their learning process. The course should contribute to their professional and methodological competencies and qualifications.

Content:

- A. The course consisted of teacher presentation, the SWIM2 role-playing game, short exercises, questions and discussion.
 - a. Presentation of the programme and its purpose, SWIM2 phase 1, 2, 3, and 4.
 - b. SWIM2

- c. Two written exercises in relation to phases 1 and 2.
 - Idea development using a mind map
 - Structure and overview of ideas using the “Pentagon” form Rienecker and Stray Jørgensen’s *Den Gode Opgave*¹ in order to identify information needs.
- d. Relevant introductory and in-depth information resources with special focus on journals.
- e. Discussion on the final grade in SWIM2.
- f. Search tips about turning keywords into search terms, and how to structure and combine them.

Learning process:

- A. It was a priority that the individual parts of the course were fairly short, as it is our experience that the students quickly get information-sated.
- B. Variation was also a keyword. Hence the course was a combination of teacher presentation, group work about SWIM2 and exercises, as well as discussion and questions/answers between teachers and students.
- C. In order to make the course as relevant as possible we applied an inductive approach, where we based our presentations on the experiences of the participants. Thus, the presentation regarding phase 1 was given after playing phases 1 and 2. The presentation of phase 2 was given after two short exercises. The presentations regarding phases 3 and 4 were given after playing phases 3 and 4.
- D. We also asked about their final grade in SWIM2, the current status of their project work and their preliminary problem definition or subject description. Thus a progression running along the lines of: framing the situation – the experiences of the participants – our theory – the participants’ new knowledge.
 - a. Presentation of programme and purpose, as well as identification of the current status of their project work.
 - b. Playing SWIM2 in groups. Phases 1 and 2.
 - c. Presentation regarding phase 1 – “my situation and what should I do at this point?”
 - d. Two written exercises in connection with phases 1 and 2.
 - e. Presentation regarding phase 2 – “what to do and where to do it?”
 - f. Identification of relevant resources in phase 2 – reference works, dictionaries, newspapers etc.
 - g. Playing SWIM2 in groups. Phases 3-5.
 - h. Discussion about grade – “why did I get this result?”
 - i. Presentation regarding phase 3 – “what should I do at this point?”
 - j. Search tips about turning keywords into search terms, and how to structure and combine them.
 - k. Presentation regarding phase 4 - “my situation, where and how should I move on?”
 - l. Identification of relevant information resources, with special focus on journals.
 - m. Filling in online evaluation questionnaire.

Assessment:

Use of online questionnaire and teachers’ observations:

- A. SWIM2 offers new ways of varying your teaching due the programmes flexibility.

¹ Rienecker og Stray Jørgensen 2005

- B. The two exercises were particularly efficient in terms of making the students active. They were to perform certain tasks, which in turn had direct relevance to their project. Thus, the combination of the overall level of the programme and the teachers' possibility for diving directly into the current situation of the participants seems like a good combination.

Example 4: A professional postgraduate teacher training workshop for lecturers.

ASB Library – Aarhus School of Business, University of Aarhus / Information specialist Mette Buje Grundsøe.

Learning prerequisites:

- A. The target group has nuanced and in-depth learning prerequisites characterised by vast teaching experience and professional competence. Typically, they have highly specialised knowledge within a particular field.
- B. Thus it is highly important that the two information specialists who conduct the workshop reflect upon the professional content and level of the individual parts of the workshop, including how to introduce SWIM and what the potential learning outcome should be.

Frame factors:

- A. Three lessons each with its own content lasting from 9-12 a.m.
- B. Two information specialists
- C. Workshop with a small group of lecturers
- D. Free participation
- E. The title of the workshop is *information searching as a method subject that supports the students' learning process*.

Goal:

- A. The purpose of the workshop is to put focus on information searching as a method subject – as a way of supporting the students' learning process.
- B. The purpose of the workshop is to challenge the teachers in terms of considering library and the information search process as integral parts of the academic learning process, in particular in connection with working out problem definitions and method. In which ways can the students' information literacy skills be integrated in teaching – especially method courses?
- C. This type of methodological approach to information searching (*to search, find, evaluate, analyze and apply information*) involves that the student reflects on the work process involved in researching an academic field.
- D. This involves that we, to a far greater extent, consider information searching as an integral part of the academic method courses (just in time) instead of perceiving it as a separate discipline.

Content:

- A. The workshop is divided into three parts moving from (1) the general level *information literacy and life-long learning* and how the library, in collaboration with the study programme, takes a process oriented and critical approach to teaching, to (2) *information seeking models*, and finally (3) concluding with a thematic approach to *information resources and learning tools*.
- B. Examples of how the lecturers can apply SWIM in e.g. method courses - specifically in relation to models for information searching as well as on a more general level in relation to the students' overall learning process and academic writing.
- C. Presentation on the purpose of supporting the students' information search processes by training their information literacy skills. The students find it meaningful when the library and study programme collaborates on academic method and information searching in relation to writing papers.
- D. Ellis and Kuhlthau's models on the information search process

- E. SWIM2 – selected sequences: General introduction, introduction to David and phase 1 (critical idea development).
 - a. The pedagogical goal is to demonstrate how SWIM2 works as a tool that makes the user reflect on previous and upcoming searches and information needs.
- F. The search strategy of SWIM2:
 - a. Like the role-play, SWIM2's search strategy challenges the students and helps them put some perspective on group work, writing papers and information searching. It is imperative that the lecturers understand this.
 - b. Furthermore, SWIM2 is an excellent way of summing up the concept of information literacy in the workshop.
- G. SWIM2 as an e-learning tool that can be used in courses, with potentially great learning outcome, to thematise integral processes in connection with information handling, writing papers and project work.
 - a. The students identify with the characters in SWIM2. They can recognize the characters and identify with the phases and challenges of project work, writing papers and information searching.

Learning process:

- A. PowerPoint presentation, introduction to discussion and group work.
- B. To introduce and inspire this group of lecturers to use the library's resources and embrace the way we support the student's learning process.
- C. Learning through presentation, reflection and discussion.
- D. Exchange of experience regarding potential scenarios where SWIM2 and related products can be included
 - a. I.e. discussion regarding where and how it would make sense to them to include e-learning products such as SWIM2 and Scribo².
- E. SWIM2 – the video sequence serves as point of departure for the workshop discussion, as well as it helps break the monotony of presentation – as in *"we're going to watch a movie"*.
 - a. SWIM2 offers a visual and auditory experience that should have a constructive impact on the workshop.

Assessment:

- A. Afterwards I talked to one of the lecturers who attended the workshop. She told me that she was in the process of planning a method course which included SWIM2. It was most satisfactory to learn that she has embraced SWIM2 and is now using it as a pedagogical tool in her teaching.

² *Scribo* is an interactive tool that supplies the student writer with suggestions and information on research papers and library searches. With a dialogue of 29 sequenced questions to the student's work-in-progress, Scribo helps the student to process initial ideas and structure the research. <http://www.scribo.dk/pagefront/index/lang/1>, 15 January 2009.

Example 5: Group instruction of 4th semester Diploma in Business Administration (HD).

ASB Library – Aarhus School of Business, University of Aarhus. Information specialist Mette Buje Grundsøe.

Learning prerequisites:

- A. The students are adults with a certain amount of maturity and experience.
- B. HD students are generally very focused on how valuable their time is. It is difficult to get them to participate.
- C. They are used to lectures and a low level of participation.
- D. They usually have full time employment and study in the evenings. As such, their frame of reference is more influenced by practical problems and solutions in companies than by academic references with focus on theory, method and process.
- E. They are highly concerned with usability, use-value and time spend on education. To them time is money.
- F. Professional competence -> possess a high level practical knowledge within a specific field.
- G. Learning by doing. Often have a background in apprenticeship e.g. in banking, and are going to use their education in connection with promotion to middle manager.

Frame factors:

- A. Two lectures of two hours for two groups of HD students.
- B. 120 students in all.
- C. Two information specialists as teachers for both groups. They take turn being in charge and being supporting.

Goal:

- A. The underlying pedagogical basis of this course was the perception of information searching as part of the overall learning process.
- B. The students should experience a clear connection between learning and information searching. Information searching and the handling of information in connection with papers is an integral part of the methods of business economics – library and study programme are working together.
- C. Furthermore, the students should acknowledge the necessity and advantage of life-long development of information literacy, as an integral part of life in both organisations and companies and in the knowledge society as such.

Content:

- A. In our experience it is very important to pay attention to the student's method literature and use their terminology.
- B. Processes in academic writing and research – information, the Internet and source criticism.
- C. The library's information resources and article search, including citation pearl growing and strengths/weaknesses with BSP and Elin.
- D. Demonstration of sequences from SWIM.
- E. Use of terminology from HD method literature e.g. the elements of problem definition and method in the phases of research paper writing.
- F. We also have a quiz/test regarding the library's services that we use for involving them in final summing up.
- G. We began the course with a brief introduction to its elements. Then we played the introduction to SWIM. We showed the description of David and closed with an actual information search phase/need/problem with the group.

- a. SWIM constituted the framework for the content of the course programme and thematised the concept of information literacy.
- b. Emphasis on how SWIM can help the student reflect and be inspired in terms of methods and tools for information searching, research paper writing and group work. Both in relation to individual research paper work, studies in general, and in relation to life-long learning.

Learning process:

- A. If possible, the teacher should try to get the students involved through questions and discussion topics.
- B. The pedagogical purpose was to use parts of SWIM as “elements of surprise” and visual and auditory stimulation.

Assessment:

- A. When teaching HD students it is crucial to connect the content of the course with examples from their work lives. Otherwise they may not see the importance of source criticism and information literacy in their jobs.
- B. Thus, in order to make the content of the course appear meaningful, they must be able to recognize and transfer these learning support initiatives to actual work situations.
- C. SWIM and other learning support initiatives can support the learning process and make teaching more interesting, if used in a structured and qualified manner.
- D. Using SWIM was a success. We are quite convinced that we should continue to use SWIM – and other ideas – as well as continue to work with the whole aspect of method.

Example 6: Supporting thesis students (under development).

ASB Library - Aarhus School of Business, University of Aarhus. Information specialist Mette Buje Grundsøe

Learning prerequisites:

No comments.

Frame factors:

The library has constructive collaboration with the Department of Business Communication regarding thesis students and thesis support initiatives. Below we have worked out a teaching scenario specially designed for groups of thesis students – *Information searching as method subject for students at thesis level.*

Goal:

- A. We emphasize the connection between learning and information seeking, regarding both writing process and the final product.
- B. In the thesis, the student must demonstrate that he/she can:
 - a) Work out good search strategies
 - b) Have knowledge of relevant information resources
 - c) Integrate new knowledge with existing knowledge
 - d) Deselection of irrelevant material or material of poor quality
 - e) Keep track of the scientific development within a specific field
- C. They must demonstrate skills in handling information academically and wise. This is closely related to the formal criteria of evaluation regarding a thesis e.g.
 - a. Is the material relevant?
 - b. Is the information presented in the thesis correct and documented?
 - c. Have the material and secondary sources been used critically?
 - d. Is the terminology concise and consistent?

Content:

- A. Library's resources and learning tools that may be helpful in the thesis writing process and the overall learning process.
- B. SWIM2
- C. Scribo – A programme that systematically helps students with problem definitions and paper writing
- D. Guide to writing projects
- E. End Note and Reference Manager – reference tools for working out bibliographies and notes

Learning process:

- A. This course will take place as a workshop. We will use SWIM to make thesis students reflect on former, current and future information searches and information needs.
- B. SWIM will also be used as basis for discussion, and to put some perspective on challenges and problems when writing a thesis and searching for information as a group.

Assessment:

No comments.

Example 7: Information counselling sessions with the library's information specialists ordered by students. Aalborg University Library / the library's information specialist team.**Learning prerequisites:**

- A. Depends on what type of student(s) has ordered the session – i.e. semester, study programme, stage in the course of study etc.

Frame factors:

- A. 30, 60 or 90 minutes of counselling with a student or study group.
- B. A spot where you can sit and talk
- C. 1 PC (preferably with two screens so everybody can see)
- D. 1 information specialist

Goal:

- A. That the student experiences getting help in his/her current situation, and that the student acquires a generic strategy for information searching that can be used now and in the future.

Content:

- A. An invitation to play SWIM2 as part of the preparation for the counselling session, or playing parts of SWIM2 as an introduction to a 90 minutes counselling session.
- B. The SWIM overview schema regarding "situation", "phase" and "strategy"
 - a. To identify which phase the students currently are in and their matching information needs.
- C. Identification of and counselling in relevant information resources

Learning process:

- A. This is a planned learning process, not a service where the information specialist takes over the information searching.
- B. Before the counselling session:
 - a. The information specialist gets hold of the student(s)'s problem formulation or subject description.
 - b. If necessary: The information specialist asks the student(s) to play the SWIM role-playing game before the session.
 - i. This will give the student(s) an opportunity to reflect on the project and information search process in advance, and consider current information needs. It is important that the counsellor knows what type of assistance is required.
 - ii. At the same time, the student(s) becomes aware of problems and possibilities in the information search process.
 - iii. This may also form the basis of dialogue during the counselling session.
- C. During the counselling session:
 - a. In a 90 minutes session, the information specialist may ask the student(s) to play SWIM to make the student(s) reflect on his/her current information needs.
 - b. In a 60 minutes session, the information specialist may use the SWIM overview schema to clarify the student(s)'s information needs.

- c. Perception of information need must be related to the student(s)'s problem formulation/subject description. What does it say about the information need? Where is the student(s) located in terms of exploration or in-depth information searching?
- d. Finally, the information specialist may introduce relevant information resources structured according to the phases of SWIM2.

Assessment:

No comments.

2.0 SWIM2 in brief

Technical requirements

SWIM2 is created in Flash and as such requires a Flash Player 8 or more. The game can be played by one player, or by a group of players. In the latter case, a group of e.g. three people will constitute the “fourth” member of the study group.

When playing SWIM2 in a classroom setting, we recommend using head phones to reduce the noise. We have good experience hooking up three head phones per computer.

Purpose

SWIM2 should be perceived as a contribution to the development of information literacy, not as a limited tutorial in information searching.

The purpose of SWIM2 is to develop the student’s information literacy skills. When using the programme, the student will develop methods and tools that can be applied in information search processes specifically related to individual research papers, to studies in general, or in a broader sense pertaining to lifelong learning³.

SWIM2 also represents the development of an e-learning tool that supports a constructivist perception of learning.

Structure

SWIM2 is a web-based interactive role-playing game in English. The game consists of six situations (acts) in which the player acts as the fourth member of an international study group who is going to write a project. Apart from the player, the study group consists of Sarah, David and Jacob. Two other characters will appear during the course of the game – namely Emily, the information specialist from the library, who appears in act 2, and Thomas, the study group’s academic counsellor, who appears in act 3.

In five different situations, the player is introduced to the group members’ conflicting approaches to information searching. The player must then side with one of the group members in order to move on. The sixth situation is an exam, in which the player receives constructive criticism on his/her choices from the academic counsellor Thomas and an external examiner.

The first five situations illustrate five phases of project work including the information search process. Each phase represents an information need. When you hold the five phase together they constitute a strategy for information searching.

³ The term “individual research paper” covers papers/assignments where the student him-/herself selects a topic, defines a problem area, carries out information search, selects theory and method, and analyses, evaluates, and draws conclusions. Individual research papers include project reports, dissertations, graduate level research papers, bachelor projects/theses etc. (*Rienecker og Stray Jørgensen, 2005, p.19 ff*).

	Situation 1	Situation 2	Situation 3	Situation 4	Situation 5	Situation 6
Phases	Creative idea development	Creative pre-focus exploration	Critical focusing	Critical analytical research	Conclusion and broader perspective	Exam
Strategy	Use the knowledge you already have	Establish overview using easily accessible information	Focus, structure and combine your information	Support your focus with in-depth information searching	Search on the basis of what you know now!	
Right choices	Siding with Jacob	Siding with Sarah.	Siding with Sarah.	Siding with David.	Siding with Jacob.	

Situation 1 – Creative idea development

This phase is all about beginning the creative process, about getting some ideas on the table and work with them. These ideas will help you identify what type of information to search for in phase 2 and to decide on pursuing a useful direction in order to work with something exciting, engaging and theoretically valid.

In terms of information search strategy, SWIM2 recommends that you begin with the group's present sum of knowledge of the field. You must identify what you already know and use the interaction for generating and developing more ideas.

Situation 2 – Creative pre-focus exploration

The purpose of phase 2 is to work towards a general view that will help you establish clarity regarding the project's direction. The creative element lies in the invitational mood or approach to ideas and possible connections within the fields that you want to research. Thus, you explore the surface of the different thoughts and ideas that the group has come up with so far, in order to establish a focus and decide which ideas should be included and which should be left out of the project. It is not until later, in phase 4, that you explore in depth.

SWIM2 recommends that you search for information that is accessible, easily understood, that gives you overview and is inspiring, as the goal is to establish a general view of the content of your ideas and whatever problems they present. This type of information is often available in e.g. reference works, mass media and the Internet. The sources may not always be scientific and will not necessarily be included in the project.

Situation 3 – Critical focusing

In this phase you must use the general view that you have just established, partly through clarifying terms within the particular field(s) of knowledge, and partly through creative pre-focus exploration of interesting problem areas. You are about to decide the focus of your project and define a problem and a *preliminary* problem definition.

SWIM2 recommends that you work with the information you have gathered in connection with establishing your focus and that you spend time preparing your upcoming search for in depth information. You prepare your search through discussions about direction, problem areas, and relevant contexts, and, on the basis of these discussions, you work out a list of keywords that can be used as search terms individually or in combination.

Situation 4 – Critical analytical research

The purpose of this phase is to thoroughly research your problem on the basis of scientific information. You work with data that must be analysed and researched critically, and you document your research in drafts or working papers, which in the course of phase 4 are turned into final chapters. In this phase you know where you are heading. You are aware of your information needs in the light of your pre-focus exploration in phase 2 and your work with the material in phase 3.

SWIM2 recommends that you spend time selecting relevant scientific information resources for your in-depth information search. You should use your list of keywords and terms, structured and in combination, and conduct a structured search⁴ on different contexts and, on the basis of this, try to assess which material should be included as principal information.

Situation 5 – Conclusion and broader perspective

The purpose of phase 5 is to place the project's conclusion(s) in a broader perspective, thereby displaying your overall knowledge of the field as well as your ability to place documented research in relevant new contexts - e.g. what sort of problems follow in the wake of your conclusions?

SWIM2 recommends that you use material that you have had to leave out at an earlier point – i.e. begin by going through the knowledge you have constructed and the material you already have in your possession. The strategy is similar to the strategy in phase 1, except that your knowledge and insight into the problem is far more extensive.

Situation 6 – Exam

The academic counsellor and external examiner present the final recommended strategy in relation to the choices the study group has made in the course of the game.

Playing the game

SWIM2 begins with an introduction to the role-playing game and a presentation of the three group members – David, Sarah and Jacob. Then the player(s) start playing⁵.

1. Each act begins with a brief introduction to a situation via a video sequence.
2. Then David, Sarah and Jacob discuss their different strategies for solving a conflict regarding their search for information.
3. The game stops and the player(s) must decide which solution the group should select.
4. The choice is followed by a number of video sequences in which the group members discuss the player(s) choice.
5. Once again the player(s) must decide if he/she wants to stick to his/her original choice or change strategy.
6. The final choice in each situation is collected in the programme and the player(s) gets a score. In each situation one of the group members represents the game's recommended strategy.
7. The final choice in each situation will be collected in the programme and form the basis of the Exam (situation 6).
8. At the exam, the group receives a grade (D, B or A) and constructive criticism from the academic counsellor and external examiner.

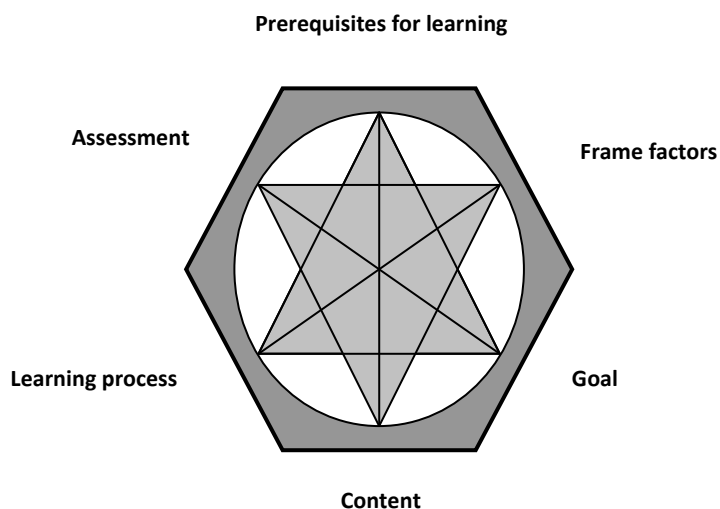
⁴ Being creative and able to adapt to the structure and content of the databases are parts of what it means to be good at searching for information.

⁵ At Aalborg University Library we usually let the students play in small groups of 2-3 persons, and together act as the fourth member of the study group in SWIM2.

3.0 The Pedagogical Relation Model

At Aalborg University Library we have applied the pedagogical relation model numerous times in the development, planning and evaluation of our courses. We find it practical and useful and it gives us some shared pedagogical concepts.

The pedagogical relation model consists of six categories and takes a broad approach to the understanding of learning and teaching; broad in the sense that it takes into account that knowledge-, skill-, emotional-, psychological-, cultural- and social factors influence both learning and teaching.



The strength of the model is that it provides you with an overview at the same time as it forces the teacher to consider the relations between the categories (part 2 contains a description of the categories).

Often you will be inclined to take the students' learning prerequisites as your point of departure, but not always. What is characteristic of the didactical relation model is that you begin somewhere...

For example, you might have a brainstorm in each category. Afterwards, you view your ideas critically and place the content of the different categories in relation to each other. Does it fit? Or do you need to make adjustments in relation to e.g. the students' learning prerequisites? Do you need to alter the content in relation to the desired learning process or the frame factors?

This is how you move around in the model. Back and forth. Up and down. Criss-cross. Until you conclude that there is an inner coherence between your didactical considerations and planning of the students' learning process.

Learning prerequisites

Learning prerequisites cover emotions, attitudes, skills and understandings that the student brings into the classroom/counselling session. The social and cultural background of the student also influences the learning prerequisites. What is the student interested in? What does he/she already know? What are the student's resources or problems in relation to the course? What about the student's background?

Frame factors

Frame factors cover everything that either *limits* or *enables* learning. E.g. classrooms, time, organisation / institution culture, cooperativeness, economy, time tables, staff, attitudes, organisational structure, plans regarding framework etc. The counsellor/teacher's *own professional and personal qualifications* are also part of the frame factors.

Goal

The goal of the course/counselling session is related to both the intention behind the course/counselling session and to the student's outcome. In some cases you can be specific about the goal; in other cases you can only state the *intention*. The degree of clarification depends on the given situation. You can work with main goals and subsidiary goals. There may be a political goal, a goal for the institution and learning goals for the individual student.

Content

The content is what the course/counselling session is about, and how this is selected and structured. It may be knowledge, skills, attitudes, scientific material, information resources, books...

Learning process

This is about how learning is going to take place. Who decides the working method, which teaching/counselling methods should be used? Cues might be:

- Are you going to be a birthing coach, counsellor or instructor?
- How should the communication take place?
- Inductive or deductive teaching?
- Individual, group or class teaching?
- Should the participants be active or passive?
- Problem-based teaching, lecture, instruction, experience-based ...

The most obvious thing to do is to plan the learning process according to the learning prerequisites of the participants. However, goal, content and frame factors may also prove to be major influences when the teaching is carried out.

Assessment

Assessment has to do with how the teaching/counselling and learning works and a about the result: It has to do with questions such as:

- How and where should the students' learning be assessed?
- Who should carry out the assessment?
- What is the learning outcome going to be assessed in relation to?
- Why must the learning be assessed?
- How and when should the teaching/counselling be assessed or evaluated?
- Who should evaluate the teaching?
- What is the teaching/counselling going to be evaluated in relation to?

Pedagogical reflections in relation to SWIM2

- What are the students' academic, cultural and social prerequisites? What are they currently working on? How far are they in their study programme? – *Learning prerequisites*
- How much time do we have? How many participants? Classrooms? My strong and weak points as teacher? What is my attitude towards the content of SWIM2 and the recommended information search strategy? – *Frame factors*
- Which goals and subsidiary goals should I set up? Should they be measurable or abstract? Are the participants going to develop opinions or learn skills... Is the goal clear and predetermined, or am I merely giving them directions without defining the final goal? – *Goal*

- What should the content be? SWIM2 + criteria for scientific quality + good and bad examples + ? Do I have too much content? Does the content match their learning prerequisites? Is my selection of content based on their needs or on what I think is important? - *Content*
- What is the best way to get them to learn something, or what possibilities do I have? Group work, in plenum, lecture, dialogue, one-way communication...? Should the teaching be inductive or deductive? – *Learning process / form of teaching*
- How should I evaluate whether or not the goals were achieved? Can it be measured? Should they fill out an evaluation form – in the class or later? Is it possible to evaluate the outcome now, or should it be done at a later stage? Would there be a difference between measuring and evaluating? What is it that can be measured here and now? – *Evaluation*

References

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Scribo: <http://www.scribo.dk/>
SWIM2: www.learningobjectsweb.dk