

# Online Asynchronous Learner Discussion Forum

- ▶ [Introduction](#)
- ▶ [Methods](#)
- ▶ [Results](#)
- ▶ [Conclusion](#)

A New Collaborative Tool for Teaching Guided Discovery and Critical Thinking in Physiology

[Sunčana Kukolja Taradi](#), [✉ skukolja@mef.hr](mailto:skukolja@mef.hr)

[Milan Taradi](#), [✉ mtaradi@mef.hr](mailto:mtaradi@mef.hr)

Department of Physiology and Immunology, Faculty of Medicine, University of Zagreb

02/10/2001

# Introduction

- ▶ Introduction
- ▷ Methods
- ▷ Results
- ▷ Conclusion

- ◆ "I don't have to know everything,  
I just have to know  
where to find it  
when I need it."

*A. Einstein*



# Introduction

Goals of guided discovery are to develop critical thinking:

- ◆ to recognize propaganda
- ◆ to analyse hidden assumptions
- ◆ to recognize deliberate deception
- ◆ to asses credibility of information
- ◆ to work through problems /decisions in the best way

- ▶ **Introduction**
- ▷ Methods
- ▷ Results
- ▷ Conclusion



# Introduction

- ▶ **Introduction**
- ▷ Methods
- ▷ Results
- ▷ Conclusion

◆ "I don't have to know everything, I just have to know where to find it when I need it."

*A. Einstein*



# Introduction

- ▶ **Introduction**
- ▷ Methods
- ▷ Results
- ▷ Conclusion

## What are the advantages?

- ◆ Students and instructors can share their ideas, questions, and individual discoveries **whenever** they wish and **wherever** they have Internet access
- ◆ Promotion of **active** student learning
- ◆ "Production" of **new** knowledge
  - ◆ It gives intellectual tool skills to convert massive amount of information into knowledge
  - ◆ To build on what we already know - to go beyond the facts



# Methods

- ▷ Introduction
- ▶ **Methods**
- ▷ Results
- ▷ Conclusion

- ◆ "Internet Classroom Assistant" - "I♥F-Club"
- ◆ Teacher's role i web-based teaching
- ◆ Assessment - students' reactions

# Methods

## "Internet Classroom Assistant (ICA)" - "I ♥ F-Club"

- ▷ [Introduction](#)
- ▷ **Methods**
- ▷ [Results](#)
- ▷ [Conclusion](#)

Internet Classroom Assistant  
Thursday, August 30, 2001 7:58AM CST

INTERAKTIVNA FIZIOLOGIA

Home  
Conferencing  
Link Sharing  
Documents  
Class Schedule  
Class Member  
Personal Message  
Year | Send  
Classer  
Join | Create | Drop | Delete  
Class Administration  
Edit User Profile  
ICA FAQ

Enter New Class:  
INTERAKTIVNA FIZIOLO...  
Change Class

PROTECT YOUR PRIVACY  
LOG OUT

Conferencing Topics  
[ Add New Topic | Post New Message ]  
Topics updated within one year [ Go ]

Topics updated within one year:

- [CAVRLJANJE UZ KAVICU](#) - (20 messages posted) (Small talk) ✓  
updated 07/13/01  
[ post | edit | delete ]
- [UH, TA FIZIOLOGIJA \(konzultacije, pitanja, domace zadatci\)](#) - (17 messages posted) (Physiology) ✓  
updated 06/25/01  
[ post | edit | delete ]
- [SLUŽBENE OBAVLJESTI KATEDRE](#) - (3 messages posted) (Immunology) ✓  
updated 05/14/01  
[ post | edit | delete ]
- [UH, TA IMUNOLOGIJA \(konzultacije, pitanja, domace zadatci\)](#) - (3 messages posted) (Neuroscience) ✓  
updated 03/20/01  
[ post | edit | delete ]
- [UH, TA INZ \(konzultacije, pitanja, domace zadatci\)](#) - (3 messages posted) (Neuroscience) ✓  
updated 12/28/00  
[ post | edit | delete ]

- ◆ A free web-based learning environment for collaborative academic projects
- ◆ A virtual meeting place for students and teachers of physiology interested in a pleasant and useful “written conversation” about and around physiology



# Methods

## Threaded discussions

- ▷ [Introduction](#)
- ▷ **Methods**
- ▷ [Results](#)
- ▷ [Conclusion](#)

Suncana Kukulja Taradi

Friday, March 30, 2001 6:51AM CST

INTERAKTIVNA  
FIZIOLOGIJA

[Home](#)

[Conferencing](#)

[Link Sharing](#)

[Documents](#)

[Class Schedule](#)

[Class Members](#)

Personal Messages :

[View](#) | [Send](#)

Classes :

[Join](#) | [Create](#) | [Drop](#) | [Delete](#)

[Class Administration](#)

[Edit User Profile](#)

[ICA FAQ](#)

Enter New Class:

INTERAKTIVNA FIZIOLO ...

### (Physiology)

Conferencing Topic: UH, TA FIZIOLOGIJA (konzultacije, pitanja, domace zadace...)(consultations, questions, homework...)

[Post Message to "UH, TA FIZIOLOGIJA (konzultacije, pitanja, domace zadace...)" | Create New Topic]

- **Date Limit:** Messages posted within one year
- **Message Layout:** [View Entire Messages](#) | [Print View](#)
- **Sort Order:** [Newest on Bottom](#)

#### Messages Posted In the Last Year:

[ [Hide Replies](#) ]

- [Natrij i kalij i sl.](#) - Sinisa Ajkholt - 03/26/01 6:41 AM GMT -06:00 [[Edit](#) | [Delete](#)]
- [Sto bi se dogodilo pri otvaranju toraksa?](#) - Milan Taradi - 03/26/01 1:57 AM GMT -06:00 [[Edit](#) | [Delete](#)]
  - [A toraks?](#) - Milan Taradi - 03/30/01 5:32 AM GMT -06:00 [[Edit](#) | [Delete](#)]
  - [Otvranje toraksa](#) - Filip Sedlic - 03/29/01 5:59 AM GMT -06:00 [[Edit](#) | [Delete](#)]
- [PITANJE IZ AB-RAVNOTEZE](#) - Suncana Kukulja Taradi - 03/22/01 7:34 AM GMT -06:00 [[Edit](#) | [Delete](#)]
- [Cemu profustrujni mehanizam?](#) - Milan Taradi - 03/16/01 2:37 AM GMT -06:00 [[Edit](#) | [Delete](#)]
  - [Bravo kolega Sedlic!](#) - Milan Taradi - 03/30/01 5:43 AM GMT -06:00 [[Edit](#) | [Delete](#)]
  - [Profustrujni mehanizam](#) - Filip Sedlic - 03/29/01 5:30 AM GMT -06:00 [[Edit](#) | [Delete](#)]
  - [Usteda vode!](#) - Slobodan Šeparović - 03/29/01 3:25 AM GMT -06:00 [[Edit](#) | [Delete](#)]
  - [Nije bas stedljivost :-/](#) - Milan Taradi - 03/26/01 1:45 AM GMT -06:00 [[Edit](#) | [Delete](#)]
  - [Stedljivost](#) - Sinisa Ajkholt - 03/26/01 1:16 AM GMT -06:00 [[Edit](#) | [Delete](#)]
- [Atrofija](#) - Sinisa Ajkholt - 01/10/01 7:06 AM GMT -06:00 [[Edit](#) | [Delete](#)]
  - [Hvala!](#) - Sinisa Ajkholt - 01/15/01 4:36 AM GMT -06:00 [[Edit](#) | [Delete](#)]

- ◆ Thought-provoking questions require that students go beyond facts and use knowledge in exercise of judgment



6



# Methods

## Document and link sharing

- ▷ [Introduction](#)
- ▶ **Methods**
- ▷ [Results](#)
- ▷ [Conclusion](#)

The screenshot shows the NICENET Internet Classroom Assistant interface. The browser address bar displays the URL: [http://www.nicenet.org/CA/classLink\\_start.cfm?andID=4427&G1E0B811D592](http://www.nicenet.org/CA/classLink_start.cfm?andID=4427&G1E0B811D592). The page title is "Internet Classroom Assistant" and the date is "Monday, September 24, 2001 3:24AM CST". The user is identified as "Suncana Kukojs Taradi".

The interface is divided into several sections:

- Left Sidebar:** Contains navigation links such as "Home", "Confirmation", "Link Sharing" (highlighted with a mouse cursor), "Documents", "Class Schedules", "Class Members", "Personal Messages", "Classes", "Class Administrators", "Edit User Profile", "ICA FAQ", "Enter New Class", and "Change Class".
- Main Content Area:** Titled "Internet Resources", it lists several resources with "Add a Link" and "Add a Link Topic" options. The resources include:
  - ENCIKLOPEDIJR** (Medical Encyclopedia)
  - FIZIOLOGIJA - MEMBRANE** (Physiology - Membrane)
  - FIZIOLOGIJA - MISICI** (Physiology - Muscles)

- ◆ Enable collaborative academic projects by guided discovery approach as well as development of critical thinking skills



# Methods

## Teachers role in web-based teaching

- ◆ Pedagogic or content role
- ◆ Moderator & technical role

- ▷ Introduction
- ▷ **Methods**
- ▷ Results
- ▷ Conclusion



## Assessment - students' reactions

- ◆ Anonymous questionnaire on paper
- ◆ 13 questions - forum members
- ◆ 6 questions - other students enrolled in our courses
- ◆ The questionnaires were evaluated electronically

# Results

- ▷ Introduction
- ▷ Methods
- ▶ **Results**
- ▷ Conclusion

- ◆ Descriptive analysis of "I♥F-Club"
- ◆ Analysis of the questionnaire



# Results: Descriptive analysis of I♥F-Club

- ▷ [Introduction](#)
- ▷ [Methods](#)
- ▷ **Results**
- ▷ [Conclusion](#)

## Class administration

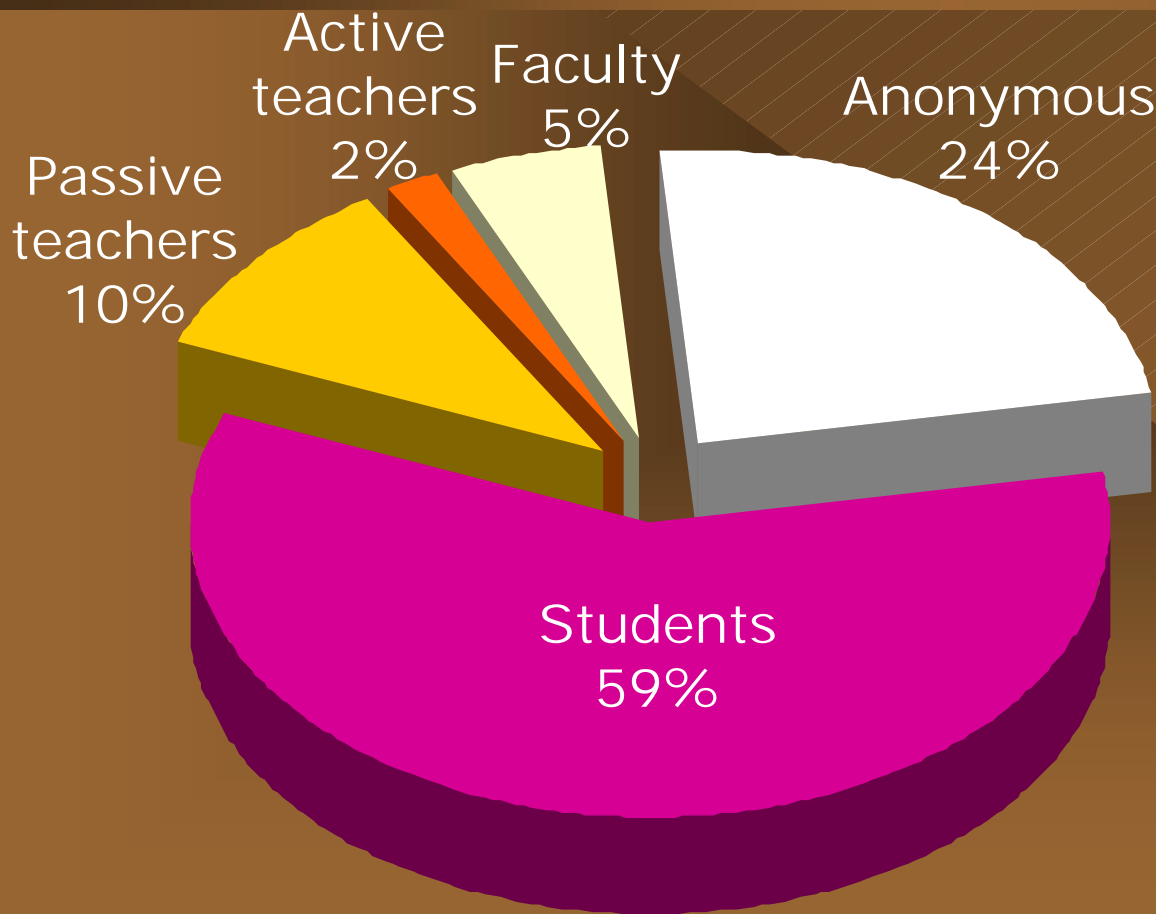
- ◆ 99 members
- ◆ 395 messages
- ◆ 9 documents

The screenshot shows the 'Internet Classroom Assistant' web interface. The browser address bar displays 'http://www.nicenet.org/ICA/class/class\_administration.cfm'. The page title is 'Internet Classroom Assistant' and the date is 'Thursday, August 30, 2001 8:03AM CST'. The main content area is titled 'Class Administration: INTERAKTIVNA FIZIOLOGIJA'. Under 'Class Information', the following statistics are listed: Class Key: A28Z77XZ9, Members of this class: 99 (with a checkmark), Logins: 1669, Conferencing Topics: 6, Conferencing Messages: 395 (with a checkmark), Documents: 9, Link Topics: 18, and Links: 27. Below this, there are sections for 'Delete Specific Users' (with a dropdown menu showing 'Ada Banc (aBanc)' and a 'Delete User' button), 'Delete All Students' (with a 'Delete All Students' button), and 'Change User Types' (with a 'Select a user:' dropdown showing 'Aleksandra Aleksandrova (sanda)' and a 'Select their new user type:' section with radio buttons for 'Administrator', 'Teacher's Assistant', and 'Student (default)'). A left sidebar contains navigation links such as 'Home', 'Conferencing', 'Link Sharing', 'Documents', 'Class Schedule', 'Class Members', 'Personal Messages', 'Classroom Administration', 'Edit User Profile', and 'FAQ'. At the bottom left, there is a 'Change Class' button and a 'LOG OUT' link.

# Results: Descriptive analysis of I♥F-Club

- ▷ [Introduction](#)
- ▷ [Methods](#)
- ▷ **Results**
- ▷ [Conclusion](#)

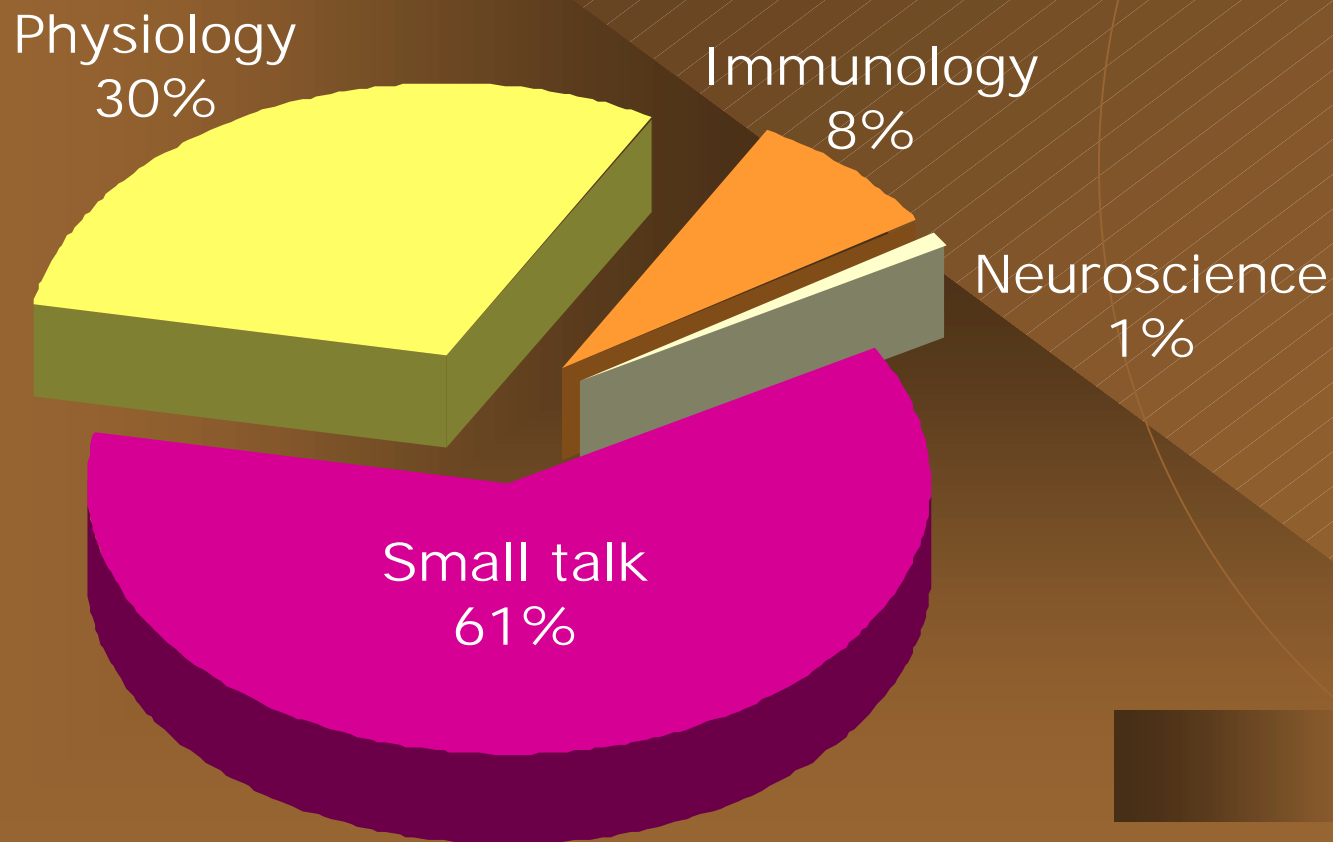
## Distribution of the 99 members



# Results: Descriptive analysis of I♥F-Club

- ▷ [Introduction](#)
- ▷ [Methods](#)
- ▷ **Results**
- ▷ [Conclusion](#)

## Distribution of the 395 postings



# Results: Descriptive analysis of I♥F-Club

## Collaborative projects by guided discovery approach

- ▷ [Introduction](#)
- ▷ [Methods](#)
- ▶ [Results](#)
- ▷ [Conclusion](#)

- ◆ 2 projects
- ◆ 6 students
- ◆ 9 documents

The screenshot shows a web browser window displaying a document titled "CISTICNA FIBROZA (Ana Šverha, 2. godina)" by Saraana Kukića Tasić, dated October 16, 2000. The document is viewed in a "View Document" mode. The page content includes a title, author information, and a section titled "UZROCI BOLESTI" (Causes of the disease). Below the text, there is a diagram of a cell with labels for "CAMPONICIL" and "SIL OF COMMON PHENYLALANINE METABOLITES". To the right of the diagram is a sequence alignment of CFTR protein variants, including ΔF508, ΔF507, ΔF508del, ΔF508, ΔF509, and ΔF510. A red box highlights the "ΔF508del" variant with the note "400del is major variant with cystic fibrosis". The browser's address bar shows the URL "http://www.niceinet.org/ICA/class/focuser1\_show.cfm?document\_id=70393".

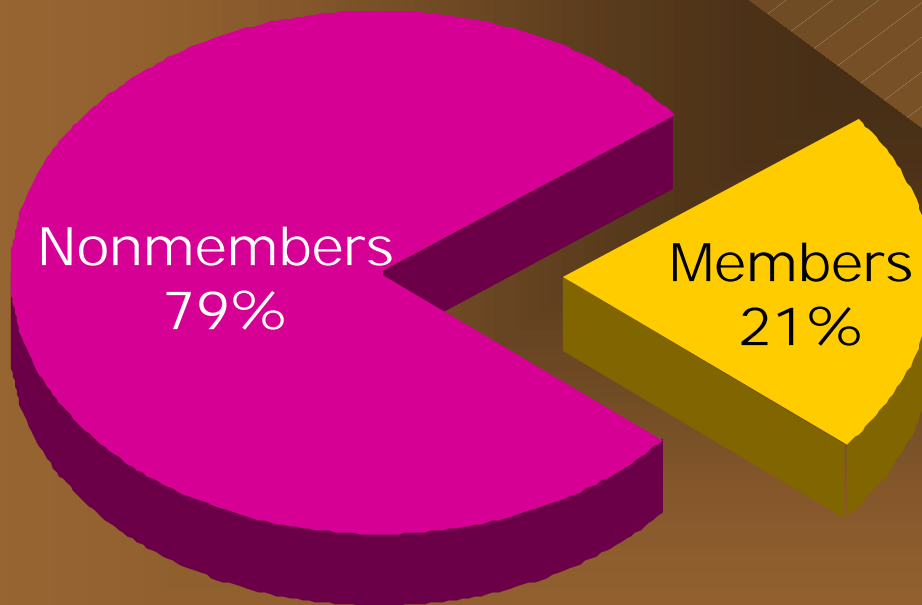




# Results: Analysis of the questionnaire

- ▷ [Introduction](#)
- ▷ [Methods](#)
- ▷ **Results**
- ▷ [Conclusion](#)

## The two groups side by side



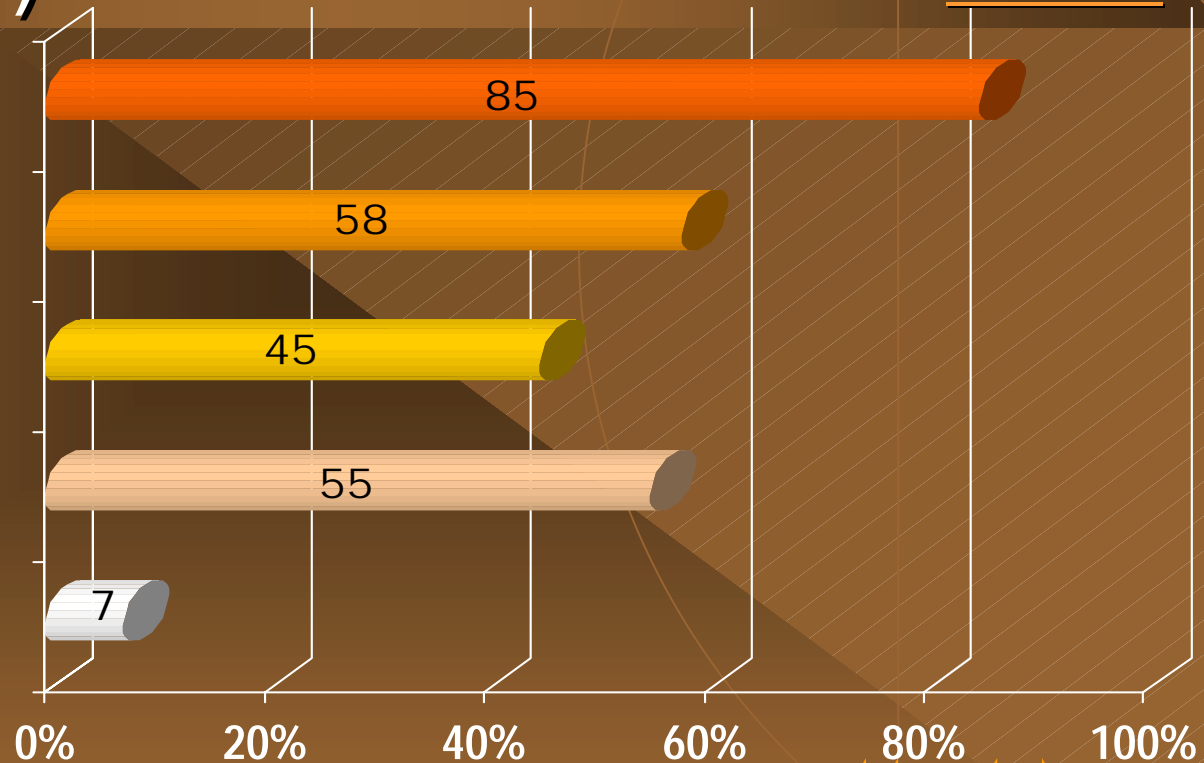
- ◆ 42 Members
- ◆ 155 Nonmembers

# Results: Analysis of the questionnaire

- ▷ Introduction
- ▷ Methods
- ▶ **Results**
- ▷ Conclusion

## Members (42)

- ◆ **Amusing & useful**
- ◆ **Active & very active**
  - ◆ **Once & several times/week**
  - ◆ **Home computer**
  - ◆ **Anonymous**

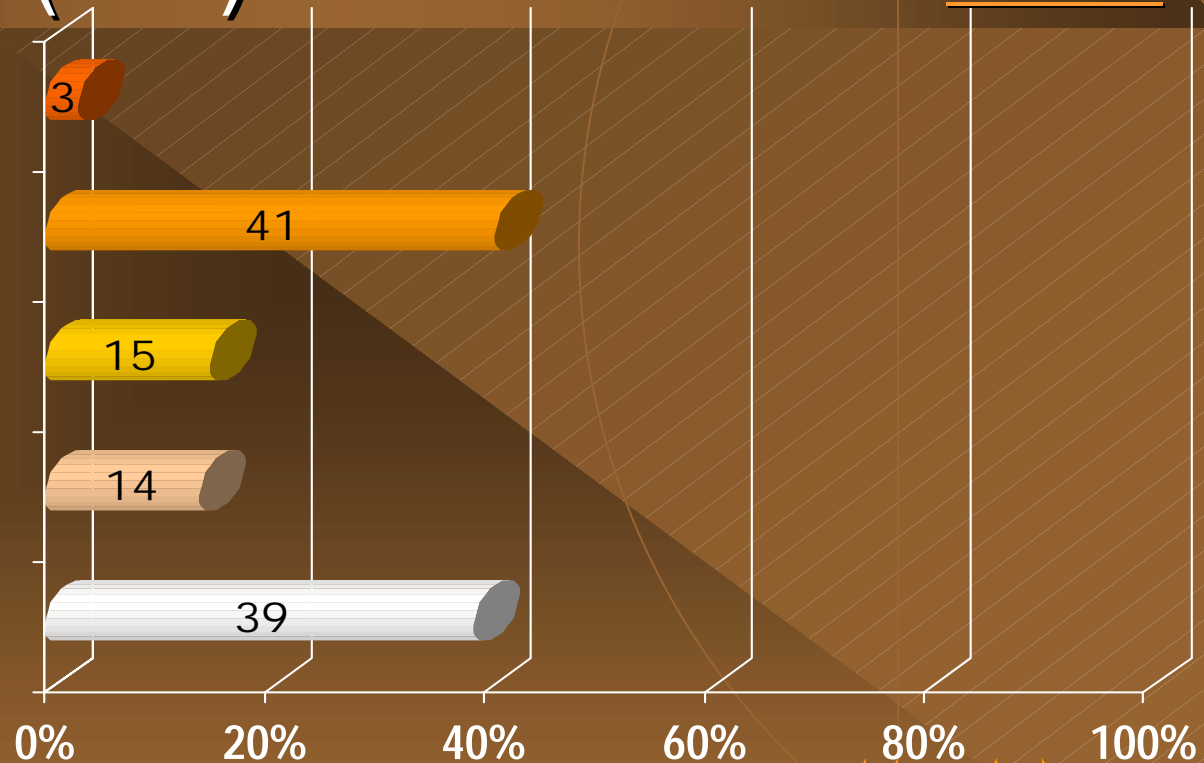


# Results: Analysis of the questionnaire

- ▷ Introduction
- ▷ Methods
- ▶ **Results**
- ▷ Conclusion

## Nonmembers (155)

- ◆ No interest in computers
- ◆ Hardly ever use Internet
- ◆ Never use Internet
- ◆ Didn't know
- ◆ Lack of motivation

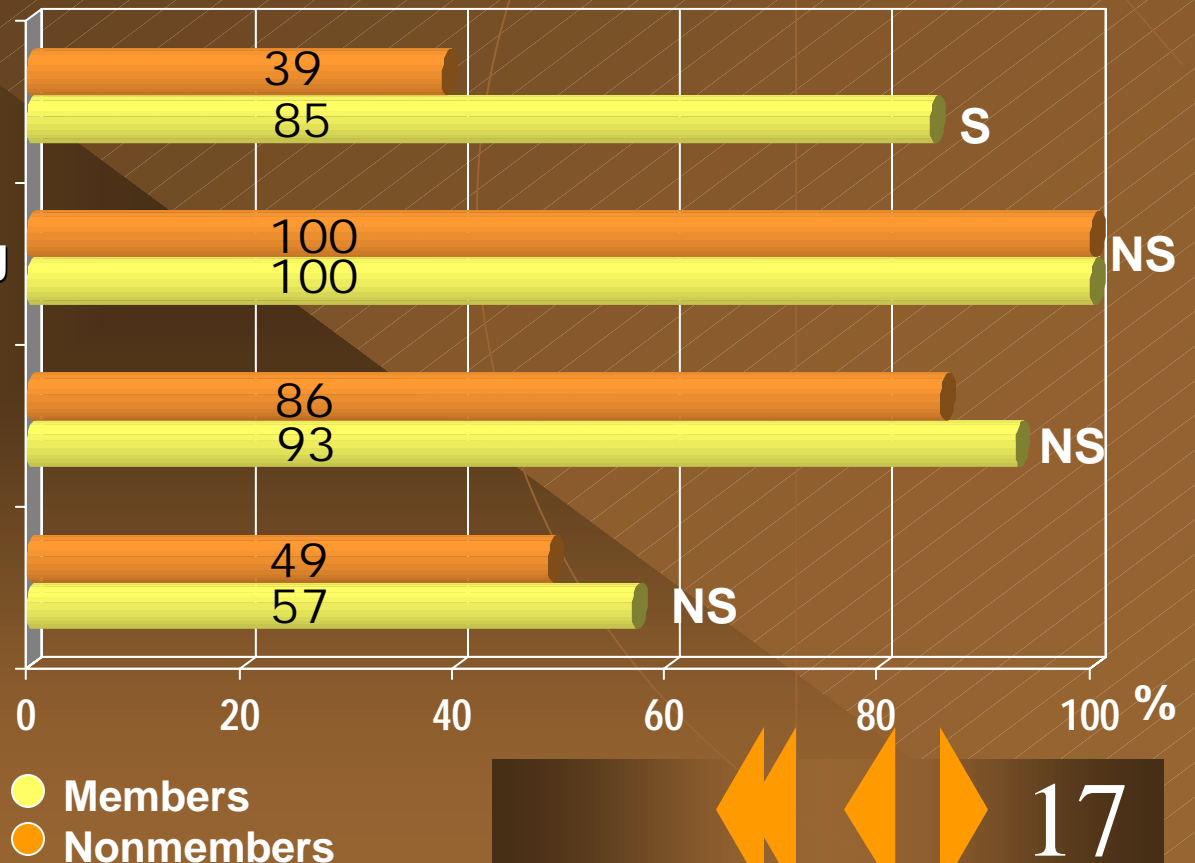


# Results: Analysis of the questionnaire

- ▷ [Introduction](#)
- ▷ [Methods](#)
- ▶ [Results](#)
- ▷ [Conclusion](#)

## Members vs. Nonmembers

- ◆ Give student credit for posting
- ◆ Computer enhance learning
- ◆ On-line communication enhances real life communication
- ◆ Average computer user



# Conclusions

- ▷ Introduction
- ▷ Methods
- ▷ Results
- ▶ **Conclusion**

- ◆ Specific (from our experience)
- ◆ General

## Conclusion: Specific (from our experience)

# Using an asynchronous learner discussion forum can be successful

- ▷ [Introduction](#)
- ▷ [Methods](#)
- ▷ [Results](#)
- ▶ [Conclusion](#)

- ◆ 1/4 of medical students are willing to use a discussion forum as a learning tool
- ◆ Credit is needed to motivate and support student participation
- ◆ Small talk-topics about subjects of general interest have a positive feedback effect on self directed learning in serious discussion-topics
- ◆ Faculty plays a key role in fostering critical thinking among students using web-communication tools
- ◆ Teachers need motivation, support and training

# Conclusion: General

## Online asynchronous discussion forum benefits

- ▷ [Introduction](#)
- ▷ [Methods](#)
- ▷ [Results](#)
- ▶ [Conclusion](#)

- ◆ **Increased time for discussion**
  - ◆ gives time for reflection
  - ◆ thoughtful, articulate responses
  - ◆ allows for giving and accepting feedback
  - ◆ allows students to seek clarification or help immediately the need arises
- ◆ **Gives "voice" to silent students - 100% participation**
  - ◆ provides a more egalitarian learning environment
- ◆ **Supports peer learning**
- ◆ **Increased involvement with the course's content outside the regular classes**
- ◆ **Transcript available for review and feedback**
  - ◆ enables instructors to see how the material is being intellectually interpreted and integrated by each student
  - ◆ allows students to benefit from feedback from their fellow-students and the instructor

