



# Introducing an online collaborative learning environment in a security database project

dr Zorica Stanimirović,  
Faculty of Mathematics, University of Belgrade

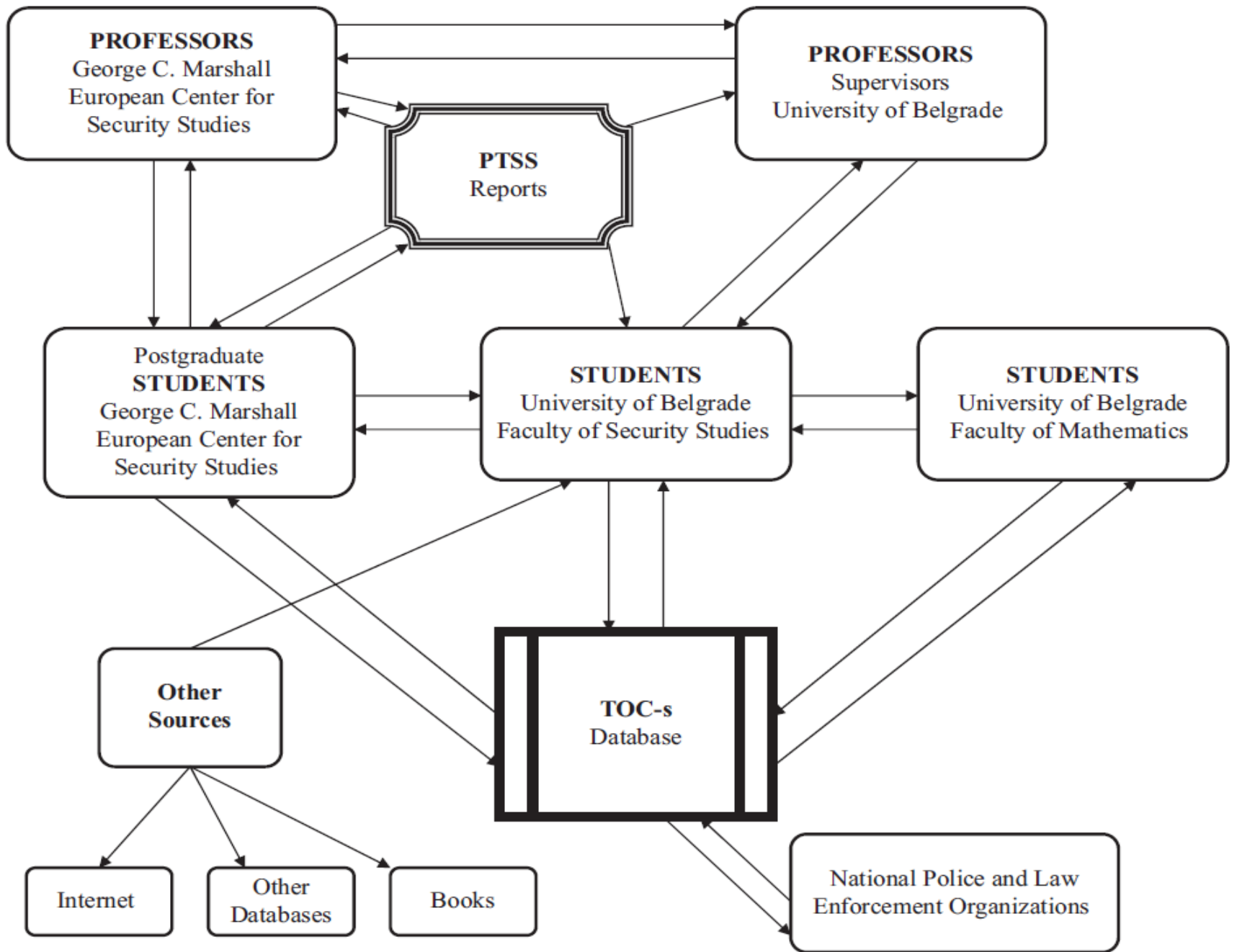
**CADGME 2012, June 22-24, Novi Sad, Serbia**

# Active Collab-AC

- AC is an online collaboration learning environment
- It has been used in designing and development of a Security Database TOC-search
- Main goals:
  1. to facilitate students in group collaboration,
  2. to coordinate and monitor the learning process,
  3. to improve students' learning and communication skills,
  4. to increase students' motivation, individual accountability, self-appreciation, equality and friendship in team work.

# TOC-search database

- Online search engine of information related to terrorism and organized criminal, available at [www.tocsearch.com](http://www.tocsearch.com)
- Interdisciplinary project of Faculty of Mathematics and Faculty of Security studies, Supported by George C. Marshal European Center for Security Studies, Germany
- Provides various search features and analysis in of different categories related to terrorism and organized criminal
- Contains the most exhaustive categorization of the stored data, compared to existing databases.



# Active Collab-AC

- Due to the specific nature of the work on the TOC-search project, we have decided to employ an **asynchronous, non-collocated collaborative learning environment**
- AC is a constructive learning applications, which employs a component-based architecture
- Web technology supports the intersubjective learning space
- Reusable components simplify the process of involving different learning environments tailored to the needs of any particular course or activity.

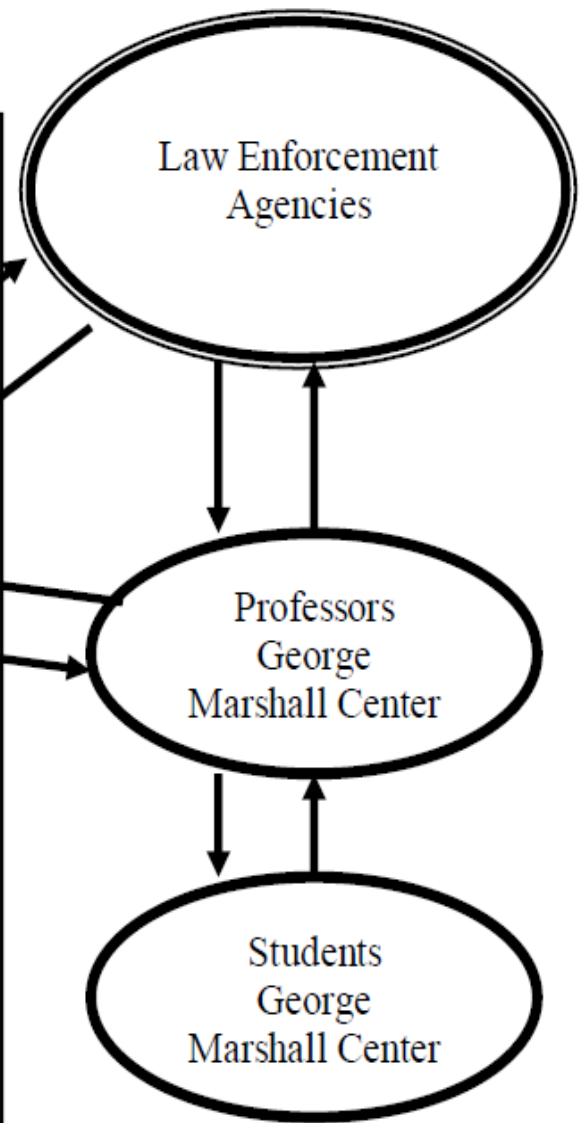
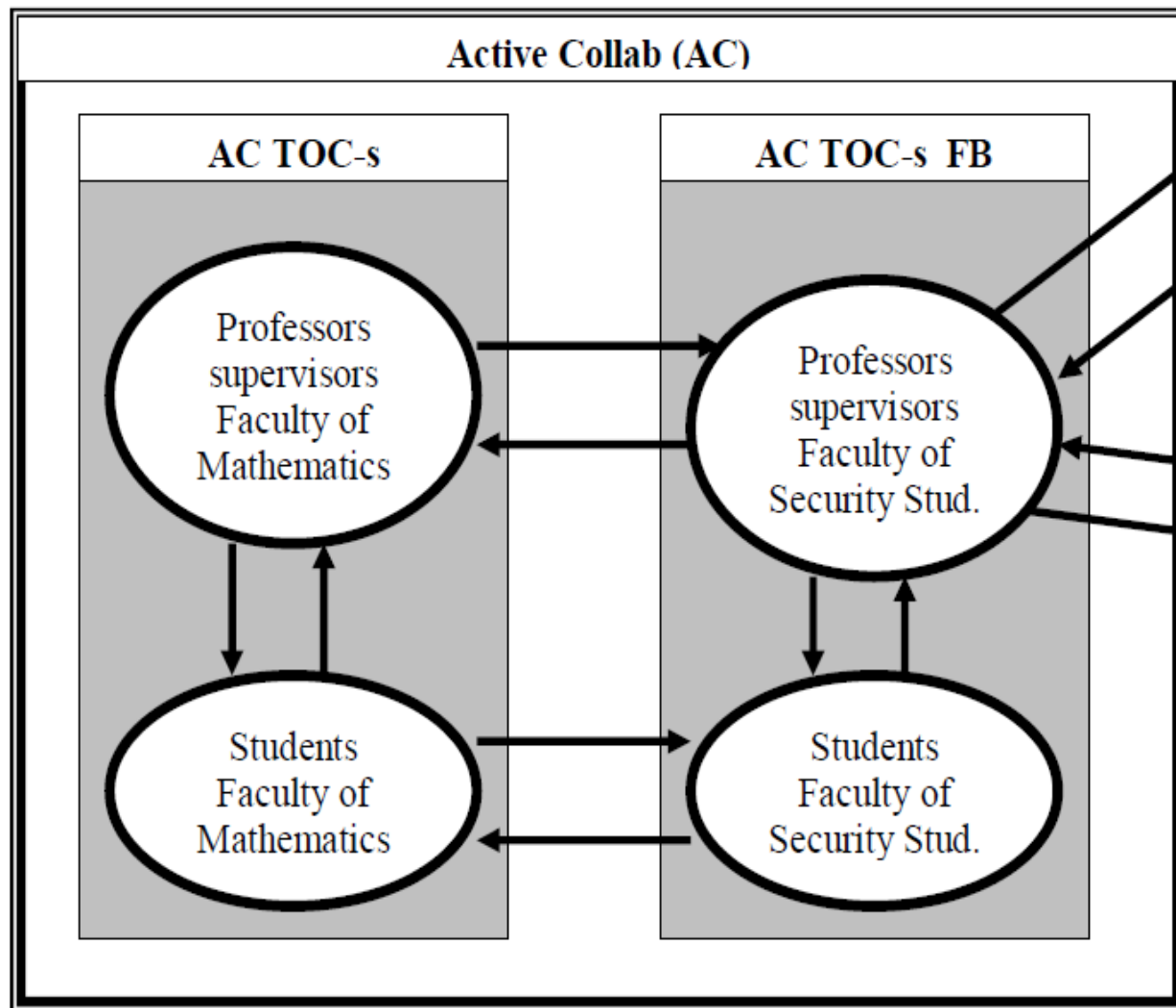
# Advantages of the AC environment

- Compared to other learning environments, the coordinating and monitoring elements are highlighted in AC portal
- The transparency of the work activates self-monitoring component of the learning environment.
- Students take an active role in a learning process through intensive interactions among themselves and with the supervisors
- They can ask for help in any stage of their work and get prompt answers, open discussions, exchange opinions, notify professors-supervisors and the rest of the group when certain task is accomplished, etc.

# Active Collab AC

We have defined two AC project groups related to TOC-search database.

- **“TOC search”**, related to construction and development of the database in the technical sense: programming, design, data management, etc. (members are students of Faculty of Mathematics)
- **“TOC search FB”**, gathers TOC-search members who are in charge for data collection, classification and editing forms. (members are students of Faculty of Security Sciences)





**OC**

People
 Projects
 Calendar
 Time
 Assignmt.
 Search
 Starred
 Quick Add

[TOC search](#)
[Milestones](#)
[Checklists](#)
[Discussions](#)
[Files](#)
[Calendar](#)
[Pages](#)
[Tickets](#)
[Time](#)
[People](#)

### Overview

Options

Dashboard > Projects > TOC search > Overview

**TOC search**

Leader: **zoricast@matf.bg.ac.rs**

Group: **Default**

Starts On: **Oct 1. 2009**

Status: **Active**

- My Assignments
- iCalendar Feed
- RSS Feed

**Project Progress**

3 of 8 tasks completed (38%)

**People on This Project**

**TOCS**

- Aleksandar Smiljkovic 1 days ago
- markoub@gmail.com 17 days ago
- zoricast@matf.bg.ac.rs
- galileja@yahoo.com On Jun 12, 2010
- Marko Obradovic -- Unknown --
- Kristina Veljkovic -- Unknown --

**Jul 22. 2010**

zoricast@matf.bg.ac.rs commented Statistike ticket: 11:19 PM

Ubaci i id-eve i nazive...mislim da ce prva varijanta (preglednija) poslužiti.

[View Comment](#) · [All Comments \(4\)](#)

---

**Jul 21. 2010**

Aleksandar S. commented Statistike ticket: 10:00 PM

Ok, potrudicu se da sto pre to uradim. Za ucesnike u akcijama i lokacije akcija mogu ubaciti id-eve umesto naziva zbog brzine izracunavanja, pa se kasnije moze lako na osnovu id-a dobiti i naziv. A mo...

[View Comment](#) · [All Comments \(4\)](#)



People



Projects



Calendar



Time



Assignmt.



Search



Starred



Quick Add

TOC search FB

Milestones

Checklists

Discussions

Files

Calendar

Pages

Tickets

Time

People

## Overview

Options


[Dashboard](#) > [Projects](#) > [TOC search FB](#) > [Overview](#)


## TOC search FB

The TOC-search (Terrorist and Organized Criminal Search Data Base) is a dynamic data base which offers comprehensive information on global terrorist network and help researchers, analysts, students and others working to prevent terrorism. It is result of a common project realized by the Faculty of Security Studies and Faculty of Mathematics in Belgrade which had started in December 2007.

The TOC-s data bases designed as online search engine that provides in-depth search and analysis on various terrorist-related categories: terrorist incidents, groups, organizations, members, leaders and supporting individuals and organizations. It also provides extensive information on links and relations between the mentioned terrorist-related categories and enables the corresponding search and predictions as well. The scope of the TOC-s is to integrate data from variety of sources, including foreign and domestic news, professional security journals, reports and databases, academic works. One of the key advantages of the TOC-s is fact that its basic data source is verified information provided by PTSS reports of the George C Marshall European Center for Security Studies. The TOC-s database will have both educational and applicative function, as an additional powerful measure for protecting state borders.

My Assignments

iCalendar Feed

RSS Feed

## Project Progress



7 of 10 tasks completed (70%)

## People on This Project

## TOCS

- Aleksandar Smiljkovic 1 days ago
- markoub@gmail.com 17 days ago
- zoricast@matf.bg.ac.rs
- galileja@yahoo.com On Jun 12, 2010
- ivanamitrovic333@gmail.com On Apr 5, 2010
- Stevan Tatalović 5 days ago
- Diana Kujović 22 days ago
- Никола Миловановић On May 22, 2010
- Милан Ражић On Mar 22, 2010
- mali\_galeb@yahoo.com 23 days ago

# Active Collab-AC

Some of the most useful and most exploited AC features in the TOC-search project are:

*Milestones* are used to mark key points in the project so that they can have a bird-eye view over things that needs to be done, when and who is responsible.

*Checklist* is a list of tasks which need to be done within a project. Every task in a list can have priority, due date, and multiple assignees.

# Active Collab-AC

*Pages* are designed for collaborative writing of articles, to track and compare changes or revert to any past version. Pages can be organized in tree like structure, sorted in categories and associated with milestones.

*Tickets* are essentially tasks, but their rich features enable their use for many different things, depending on the needs. They work well for tasks which take longer to get completed, which evolve through time, or in situations when is necessary to discuss a task with the members of the team.

# Active Collab-AC

*Discussions* on tickets, milestones, or general-type discussions enable both students and professors to refer to a problem in the realization of the milestone, task or subtask.

*Files.* AC portal has the possibility to share, organize and comment files. Unlimited number of related files may be uploaded, and further viewed, downloaded and discussed. Files are organized into categories and sorted by the time they are uploaded. Professors can restrict the accessibility of the uploaded files from and make them available to certain members of TOC-search team only.

*Email Notifications.* Participants of the project receive email notifications when tickets or milestones are commented, completed, opened or reopened, when a discussion has been started or commented and a file uploaded.

### Discussions

New Discussion

Dashboard > Projects > TOC search FB > Discussions > List

Page: (1), 2, 3

Discussion	Replies	Last Reply
Flash points-PTSS Started by zoricast@matf.bg.ac.rs	0	
Add new opcija Started by Aleksandar Smiljkovic in General	0	
Prebacivanje slike Started by mali_galeb@yahoo.com	2	On May 1, 2010 by zoricast@matf.bg.ac.rs
sortiranje kolona u admin panelu... Started by markoub@gmail.com	2	On Apr 25, 2010 by Gordana S.
Unos lica na TOC Started by galileja@yahoo.com	0	
Za Anu Bozilovic Started by Gordana Subotic	2	On Mar 25, 2010 by Ana B.
Nova i zvanicna adresa baze: www.tocsearch.com Started by Aleksandar Smiljkovic in General	0	
Novi clanovi? 1, 2 Started by zoricast@matf.bg.ac.rs	11	On Mar 8, 2010 by mali_galeb@yahoo.com
Unos i izmena linkova Started by Aleksandar Smiljkovic	2	On Mar 5, 2010 by Diana K.
Advanced search Started by markoub@gmail.com	3	On Mar 4, 2010 by markoub@gmail.com
Slike Started by galileja@yahoo.com	0	

- All Discussions
- General
- Manage Categories

Welcome back zoricast@matf.bg.ac.rs | [Profile](#) | [Logout](#)

People



Projects



Calendar



Time



Assignmt.



Search



Starred



Quick Add

All

New Filter



Dashboard &gt; Assignments &gt; All

Filter: All

Name	Project
<input type="checkbox"/> <input type="checkbox"/> - Ticket: Prototip formulara za naprednu pretragu za individualce galileja@yahoo.com is responsible. Other assignees: markoub@gmail.com, zoricast@matf.bg.ac.rs, Aleksandar Smiljkovic.	TOC search
<input type="checkbox"/> <input type="checkbox"/> - Ticket: Individuals- status markoub@gmail.com is responsible. Other assignees: galileja@yahoo.com, zoricast@matf.bg.ac.rs, Aleksandar Smiljkovic.	TOC search
<input type="checkbox"/> <input type="checkbox"/> - Ticket: Sastanak TOCs-tima aleks.bozovic88@gmail.com is responsible. Other assignees: Stevan Tatalović, Diana Kujović, Aleksandar Smiljkovic, zoricast@matf.bg.ac.rs, Никола Миловановић, miljanpatkovic@hotmail.com, Милан Ражић, markoub@gmail.com, mali_galeb@yahoo.com, ivanamitrovic333@gmail.com, Gordana Subotic, galileja@yahoo.com, Tijana Prizrenac.	TOC search FB
<input type="checkbox"/> <input type="checkbox"/> - Ticket: @@@@ zoricast@matf.bg.ac.rs is responsible.	TOC search FB
<input type="checkbox"/> <input type="checkbox"/> - Ticket: Sastanak TOCs-tima aleks.bozovic88@gmail.com is responsible. Other assignees: Stevan Tatalović, Luka Glusac, Gordana Subotic, Diana Kujović, Vojan Ristic, Aleksandar Smiljkovic, zoricast@matf.bg.ac.rs, sandra.vucic@gmail.com, Никола Миловановић, miljanpatkovic@hotmail.com, Милан Ражић, markoub@gmail.com, mali_galeb@yahoo.com, ivanamitrovic333@gmail.com, galileja@yahoo.com,	TOC search FB

Done

# Case study

- The goal of our case study was to get feedback from students about the impact of the AC environment on their work within the TOC-search project
- Participants in this study were students from Faculty of Security studies involved in the TOC-search project.
- In this study we used two questionnaires administered to all participants.



# Case study

<i>Frequency of usage of AC portal</i>	<i>n (%)</i>	<i>Most frequently used feature</i>	<i>n (%)</i>
5-7 days a week	19 (50%)	Discussions	26 (68.4%)
3-4 days a week	16 (42.1%)	E-mail Notifications	9 (23.7%)
1-2 days a week	3 (7.9%)	Other	3 (7.9%)

**Table 1.** Frequency of usage of AC portal and its most frequently used feature

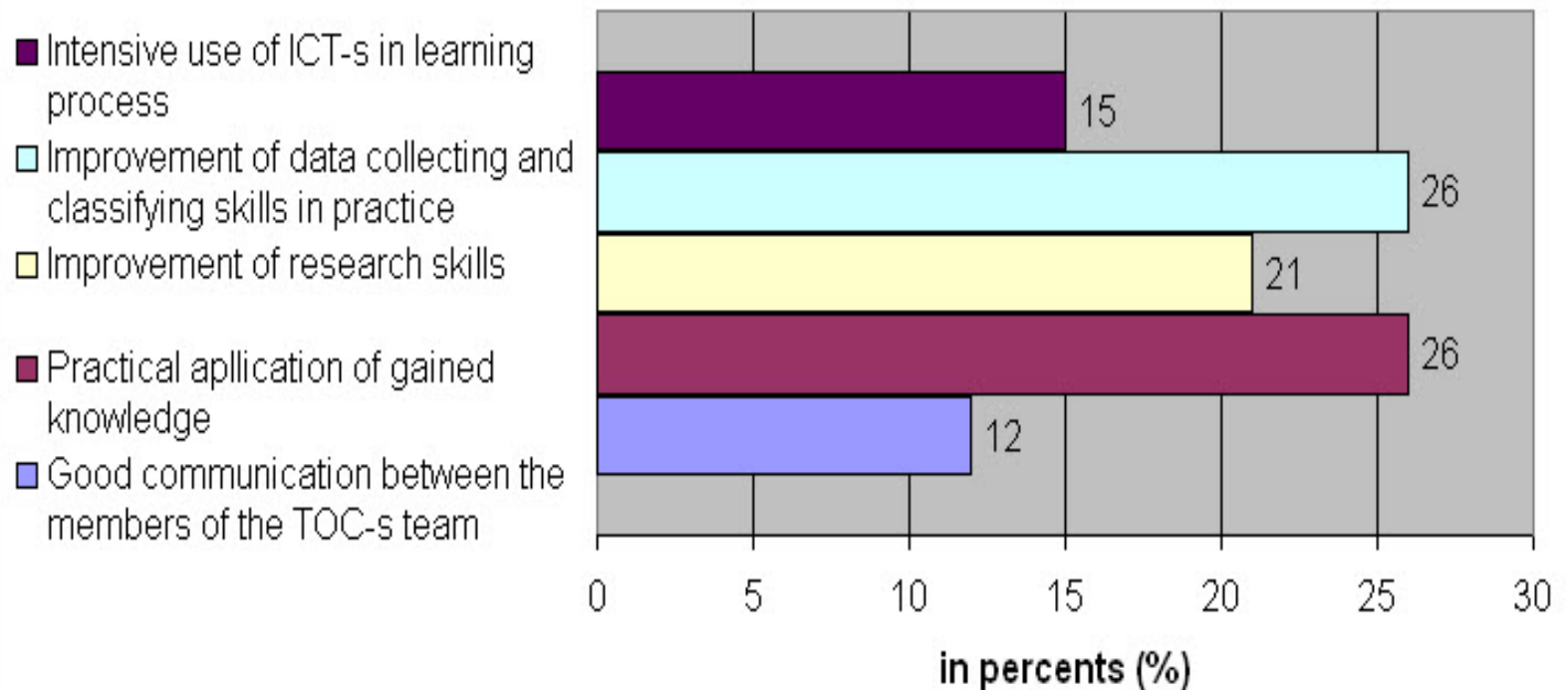
# Case study

Category	Improvement (n, %)			
	<i>Improved</i>	<i>Somewhat improved</i>	<i>Little improved</i>	<i>Not improved</i>
<i>Communication</i>	37 (97.4%)	0	1 (2.6%)	0
<i>Research skills</i>	30 (78.9%)	5 (13.2%)	3 (7.9%)	0
<i>Learning skills</i>	26 (68.4%)	7 (18.4%)	5 (13.2%)	0
<i>Motivation</i>	32 (84.2%)	5 (13.2%)	1 (2.6%)	0
<i>Self-appreciation</i>	17 (44.7%)	14 (36.8%)	4 (10.5%)	3 (7.9%)
<i>Monitoring and coordination</i>	29 (76.3%)	8 (21.1%)	1 (2.6%)	0

**Table 2.** Students' perceptions of improvement

# Case study

**What aspects of the work on the TOC-s learning environment are most useful and most important for you?**



# Conclusions

The results of the conducted study indicate that:

- The perspectives of help seeking and information searching have been successfully unified within the AC interactive learning situation.
- AC showed to be a constructive knowledge-building environment that helped in improving students' learning and communication skills.
- Coordination and monitoring aspects of AC portal have positive impact on students' individual accountability, equality and friendship, motivation and self-appreciation.



# Thank you for your attention!

Questions? Suggestions? Comments?

email: [zoricast@matf.bg.ac.rs](mailto:zoricast@matf.bg.ac.rs)