## My Study Group (facilitator)

My Study Group is a tool in Absalon for matching students in study groups prior to their study start. The division is done via an algorithm that matches the students based on their answers to 3 basic questions. This is a guide for you as a facilitator.

The process is overall as follows (everything takes place directly in the tool)
> You send a message to the students to start the group formation process
> The students answer the questions
$>$ You can send reminders to students who have not yet responded
> You start the group formation process
$>$ The algorithm places the students in groups based on the similarity in their answers
> You approve the algorithm's suggestions for groups (alternatively edit the groups manually)
$>$ Students are automatically notified of their groups and the other group members

## My Study Group in Absalon

If My Study Group is not already shown in the menu, you can click on Settings and drag the tool and place it in the navigation menu. Remember to click Save.


OBS: If you want to set up group formation on a course with several sections and where the individual groups must not consist of students from different sections, you can use mass setup. Read more about this at the end of the instructions - however, it is recommended that you read through the instructions for the general setup first.

## The role as a facilitator

- Click on My Study Group. The first teacher to click on the element now becomes the facilitator
- (If you are not a facilitator to start with, you can choose to take the role afterwards)
- The page briefly describes the purpose of the My Study Group tool and shows the 3 questions
- Your tasks as a facilitator are listed in the right corner (you have the option to edit some important settings, look under the screenshot)

```
My study group
This module can be used for group formation. Group formation is done by students answering
a number of questions. When the students have responded, you will be able to activate
automatic group formation, where the students will be grouped with other students that have
responded most like themselves. It is recommend that study groups are formed in the
beginning of your course.
You are the facilitator
    - Step 1: Send questions to the students
    - Step 2: Students answer the questions
    - Step 4: Start and approve group formation
Edit settings
Discover what experiences Jon and Christine have with the use of study groups in their
teaching
Read the instructions for the module
As a facilitator, you can write a text for the students about the process and attach any relevan
files. Write your own introductory text and upload any attachments
Questions
By defaul, students will be shown the following questions:
    1.I prefer to meet on campus
    2. I can meet with the study group some evening and/or weekends
    2. I can meet with the study group some evening and/or week
Students respond to each question with Agree, Partially agree, Neither, Partially disagree or
Disagree
It is also possible to add questions regarding education and topic to achieve better study
groups.
No extra questions have been added yet
Add extra question about education and/or topic
Before you send out the questions, you can adjust the notification that will be sent to the
students.
Adjust notification for students
```

```
Edit settings
\square \text { Activate 'Contact facilitator'}
If activated, students can write directly to the facilitator in the module
\square \text { Automatic synchronisation of groups}
If activated, groups are automatically synchroised to Absalon
\square \text { Lock groups}
If activated, students cannot join or leave groups
Cancel group formation process
Synchronise groups now
< Back Save
```

- You can switch off "write to facilitator" so that the students cannot contact the facilitator
- You can opt out of automatic synchronization of groups. When synchronization is switched on, My Study Groups creates and maintains the study groups as groups in Absalon that can be used for e.g. assignments. If changes are made to the groups directly in Absalon, the changes will be overwritten by My Study Groups and therefore it may be relevant to switch off synchronization.
- You can lock groups if, for example, there are mandatory groups.
- You can cancel/reset group formation processes that have already been started, if they have been started, for example by mistake (be aware that any formed groups are lost).


## Writing your own introductory text

You can also choose to write an introduction of your own choice, which will be shown to the students, when they click on the tool.

- If you want to write a different text than the generic one (below) then click on Write your own introductory text...

```
Edit introduction
standard introduction text
Your teacher or study advisor (facilitator) can use this module to form groups. You will be asked
to answer three questions. The questions are of a practical nature, as research shows that the
more diversity there is in the group, the better it works. On the other hand, practical
considerations and logistics can be a challenge. Once you have answered the questions, your
teacher/study advisor will start the group formation. An algorithm will then divide you into
groups based on the similarities in the your answers.
You can write another introduction text for your students below
Danish
Kære alle
English
Save
```


## Adding extra questions

- You can add 2 additional questions (subjects and ecucation) by clicking on Add extra questions about education and/or subject
- If you want to add eg. "Question on subjects", you need to fill in the alternatives, which the students can choose between. If you forget to fill out alternatives, the students will be met by 2 "blank" options.

Before filling out the options:
Questions 1
Choose the subject you will be working with
Next

After filling out the options:

| Questions 1 |
| :--- |
| Choose the subject you will be working with |
| OPhysics |
| Nanotech |
| Math |
| Next |

- Adding subject as a question will look like this on the facilitators page

It is also possible to add questions regarding education and topic to achieve better study groups.

- Students must choose a subject

Add extra question about education and/or topic

## My own notification to the students

- If you want the change the generic notification that students receive in their inbox in Absalon then click on Adjust notification for students
- Remember to hit Save when you have finished

| Edit notification |
| :--- | :--- |
| Danish |
| Svar venligst på spørgsmål under My Study Group i kurset: c20475c6-89c9-4a33-95ca-bbfde1021f28 |
| English |
| Please answer the questions provided under My StudyGroup in the course: c20475c6-89c9-4a33-95ca-bbfde1021f28 |
| < Back Save |

## Send out the questions to the students

- When you are finished writing your own notification hit Send questions to the students
- After clicking, you will see a summary of the introductory text and the message that the students see. If it can be approved, click on


## Send questions to students

## Waiting for the students' answers

- You can follow the progress of the students' answers
- You can send reminders to those who have not yet responded
- You can adjust the group creation message (that the students receive when the groups have been formed)
- You can adjust the group size, if necessary

```
Responses
```

2 students have not yet responded Send reminder
0 students have responded
Group formation
You can adjust the group size that the algorithm will try to reach
Edit group creation message
4

## Create study groups

When the students (or most of the students) have responded the group formation process can begin. The algorithm will form groups based on the similarity in the students' answers (appendix 1 gives a more detailed and technical explanation of how algorithm works)

The overview below gives a preliminary status showing the number of replies, the group size and the number of groups/members

- You can now choose to either publish groups as they are or edit groups if necessary (this is explained on the next page)

```
Some students have yet to respond. If you start the group formation now, these students will
then later have to be placed into groups by you or have to ask to join the groups that have
already been created
Group size is set at 3.
Number of students who have responded 6.
Number of groups to be made 2.
```


## Groups

```
Group 1 - Lars, Andreas og Morten
Group 2 - Søren, Morten og Lars

\section*{Publish the study groups}

When you have published the groups, you get an overview of the formed groups and the members
- You can also send reminders to students who have not yet responded
- You can choose to directly assign students without a group to a group (if they have not yet responded to the questions), suggest the student to a group or create a new group
- You also have the option of automatically distributing students - who have not answered randomly into newly created groups
\begin{tabular}{|c|c|c|}
\hline Groups & & \(\wedge\) \\
\hline \multicolumn{3}{|l|}{2 groups have been formed} \\
\hline \multicolumn{3}{|l|}{Download groups as Excel spreadsheet (Group, First name, Surname, UCPH username, KUmail)} \\
\hline Group & Requests members & \\
\hline Gruppe 1-Lars, Andreas og Morten & NO & \\
\hline Gruppe 2-Soren, Morten og Lars & No & \\
\hline Students not in a group & & \(\wedge\) \\
\hline \multicolumn{3}{|l|}{Right now, 1 students are not in a group} \\
\hline - Anne Bjerge (annbje) & Assign to group Suggest for a group & Create a new group and add \\
\hline Responses & & \(\wedge\) \\
\hline \multicolumn{3}{|l|}{1 students have not yet responded Send reminder 6 students have responded} \\
\hline Tools & & ヘ \\
\hline \multicolumn{3}{|l|}{Students will also get access to tools that support good group work. This happens at the same time for all groups according to a fixed rollout plan, which begins when groups are formed. As a facilitator, you can adjust this rollout plan, see the status of the rollout and, if relevant, deselect individual tools.} \\
\hline
\end{tabular}

\section*{Editing groups}

You can edit the groups if you are not happy with the composition of the groups or if you for any other reason need to change them by dragging/dropping students, removing entire groups and creating new ones
- Make the necessary changes
- Click on Publish groups afterwards (be aware that this cannot be undone)

You have chosen to edit the groups before publishing them to the students.
You can drag and drop students between groups, create new groups and remove existing groups.

Group 1 Remove
René Grønbjerg
Andreas Gregersen
Berit Glue
Group 2 Remove
René Zilmer
Christian Toft

Add group
Students not in a group

- If you wish to remove students from formed groups, click on the group, and then remove.
\begin{tabular}{l} 
Groups \\
5 groups have been formed \\
Download groups to Excel spreadsheet (Group, First name, Surname, UCPH username, KUmail) \\
Group \\
\hline Gruppe 1 - Andreas, Berit og Arvid \\
Gruppe 2 - Thomas og Andreas \\
\hline
\end{tabular}
\begin{tabular}{|l|}
\hline Gruppe 1 - Andreas, Berit og Arvid \\
Participants \\
- Andreas Klein (andkle) Remove \\
- Berrit Gregersen (vergre) Remove \\
- Arvid Zilmer (arvzil) Remove \\
Send notification to the group \\
\hline
\end{tabular}
- You can then assign the removed person to another group.

\section*{Setup via Mass creation}

If sections have been created in a course and you do not want to mix students from the different sections, you can via the mass setup function form groups on the entire course but without grouping students from different sections. Mass creation allows you to edit and adjust the setup for all sections at once, so you do not need to access each section separately and adjust the setup.
- Click on mass creation
```

Start new group formation process
Sections have been created in this course, so you must choose whether you want to work with
group formation on a specific section (possibly via mass setup so you can work with several
sections at once) or with group formation across all sections, where you mix the students from
different sections.
Mass creation
Use mass creation if you want group formations to take place within each section of the course.

Now you can work with the different default texts, in the same manner as when setting up a single section

```
Mass create
Adjustment/setup of default texts for all sections
My study group already contains a number of default texts, but if you want to adjust these you
can do so below.
You can write your own introductory text if you don't want to use the default text (which you
can also see if you click on the link below). The text is shown to the students when they click on
My Study Group on the course.
Write your own introductory text and upload any attachments
If you want to select questions about the subject/education in addition to the 3 questions that
the students already have to answer, you can add them via the link below.
Select questions about topic and/or programme
If you want to you can adjust the message that the students receive in their Absalon inbox, you
can do this via the link below.
Edit invitation to answer poll
Customize receipt text for when groups are formed
If you want to you can adjust the message that the students receive in their Absalon inbox
when they have been assigned to a group, you can do this via the link below.
Edit notification about group formation
Send out to multiple sections
Click on the link below to get an overview of sections and any already initiated group formation
processes and send questions.
Send questions to students
```


## Sending questions out to the students via mass creation

When you have clicked on "Send questions to the students" you will be given the opportunity to "check" the correct sections. (If group formation processes have already been initiated on selected teams, they are displayed under Group formation processes).

- Click on Send


## Send questions to students

Send questions for many processes at once. Only sections without a process and processes where you can send questions are shown

Sections
$\nabla$ a105dda9-ce6d-41de-bb25-528ca2d23d87
$\checkmark$ 6ead3e4e-c702-45ac-a0bf-696d1c077acd
Group formation processes
4caef31f-3c43-4307-88e5-76e5ea7ad2c4
$\square$ ec814873-2695-40fd-9e8e-ad9618c74d54
< Back Send

## Send questions to students

Processes have been created for the selected sections and questions sent to them and the selected processes
< Back

## Appendix 1 - Group formation algorithm

The algorithm identifies the "worst" group by finding the students that differ the most in their answers. The members in that group each create their own group. The groups are then being formed iteratively by each group getting assigned a student with answers closest to the average answer of the group. The algorithm only uses the answers provided by the students in the My Studygroup app.

```
public sealed class ArcanicGroupingGenerator : IGroupingGenerator
    {
        public IReadOnlyList<Group> Group(IReadOnlyList<Data> data, int groupSize)
        {
            var consumable = data.ToList();
            var someData = data.Last();
            var seed = new List<Group>()
            {
                    new(someData)
                };
                consumable.Remove(someData);
                var seeds = this.WorstGroups(seed, consumable, (int)Math.Ceiling(data.Count / (double)groupSize)).SelectMany(e =>
e.Data).Select(e => new Group(e)).ToList();
            foreach (var d in seeds.SelectMany(e => e.Data))
            {
            consumable.Remove(d);
            }
                var result = this.BestGroups(seeds, consumable, groupSize);
            return result;
    }
    public double Compare(Data data, IReadOnlyList<Data> dataSet) => this.Compare(data, new Group(dataSet));
    public double Compare(Data data, Group group) => Euclid.Distance(data.Vector, group.Average());
    private IReadOnlyList<Group> WorstGroups(IReadOnlyList<Group> groups, IReadOnlyList<Data> data, int groupSize) =>
this.FillGroups(groups, data, groupSize,
            (ds, g) => ds.OrderByDescending(e => this.Compare(e, g)).First());
    private IReadOnlyList<Group> BestGroups(IReadOnlyList<Group> groups, IReadOnlyList<Data> data, int groupSize) =>
this.FillGroups(groups, data, groupSize,
            (ds, g) => ds.OrderBy(e => this.Compare(e, g)).First());
    private IReadOnlyList<Group> FillGroups(IReadOnlyList<Group> groups, IReadOnlyList<Data> data, int groupSize,
Func<IReadOnlyList<Data>, Group, Data> dataSelector)
    {
        var consumable = data.ToList();
        var gs = groups.ToList();
        for (var i = 0; i < groupSize - 1; i++)
    {
        foreach (var g in gs)
        {
            if (!consumable.Any()) break;
                var x = dataSelector(consumable, g);
                consumable.Remove(x);
                g.Append(x);
        }
            }
            return gs;
        }
```

