Flow in academic activities at the faculty: 
A qualitative analysis

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Abstract

Background and aims: Flow is a highly enjoyable state people feel when they are so focused on a task that it amounts to complete absorption in an activity (Csikszentmihalyi, 1975). Flow in academic activities results in various positive educational outcomes and is more important for students’ well-being than flow in other areas of their life (Ljubin Golub, Rijavec, & Olčar, 2016). Keeping in mind these positive outcomes, the aim of this study was to identify the characteristics of academic activities at a faculty which students report as the most flow-inducing.

Method: The sample comprised 126 third-year and 77 fifth-year students of teacher education at the Faculty of Teacher Education, University of Zagreb. The participants were presented with three quotes about flow experience (Csikszentmihalyi & Csikszentmihalyi, 1988) and asked to describe in detail one such experience in academic activities at the faculty that was the most...
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flow-inducing. They also rated how challenging the activity was and to what extent they had the necessary skills to perform it.

**Results:** Forty-four percent of the third-year and 77% of the fifth-year students had experienced flow in some academic activity during their studies. For the third-year students, these were mainly various engaging activities related to their interest and talents, and specific activities during lessons and seminars. For the older students, these activities mostly included various obligatory tasks (preparing for lectures, lecturing, preparing obligatory tasks, and exams) that offered them an opportunity to be creative and demonstrate skills both at the faculty and in the real-life context. The levels of challenges and necessary skills were rated above average for all groups of activities.

**Conclusion:** It was concluded that the most flow-inducing academic activities are those that are engaging and most important for achieving students’ academic goals, but other explanations were offered as well.

**Keywords:** academic flow, higher education, qualitative analysis, students

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**Introduction**

The topic of student engagement in higher education has received considerable attention due to the concerns about their success and retention rates in the European Union (Vossensteyn et al., 2015). A considerable number of students fail to finish their studies, which can have negative consequences both for them and their families, as well as for the society in whole. In Croatia, the number of such students is over 40%, which is a higher percentage than in other EU countries (File, Farnell, Doolan, Lesjak, & Šćukanec, 2013). However, even when students finish their studies, we should be aware that academic performance is not the only element of university student experience. Equally important for students is to engage in learning, enjoy it, and make the most of their education. In spite of the importance of attending classes, many students often miss them, mostly because of boredom or a general lack of interest (Rijavec & Miljković, 2015). Different curriculum redesigns have been suggested in order to deal with these issues and foster intrinsic motivation. They all stress that it is important for students to meaningfully engage in continuous learning experiences that may lead to a state of optimal experience or flow, a state closely related to intrinsic motivation (e.g., Fullan, 2012; Litky & Grabelle, 2014).

Csikszentmihalyi (1991) defined flow “as a state in which people are so involved in an activity that nothing else seems to matter” (p. 4). Other characteristics include deep concentration, absorption, control of the situation, clear goals, and clear feedback, accompanied by a complete loss of the sense of time and place. Flow theory postulates that the necessary conditions for this state to occur are that both skills and challenges are above average (Csikszentmihalyi, 1997; Delle Fave & Massimini, 2004). If challenges are too high compared to
skills, a person feels anxiety. On the contrary, when challenges are too low and skills too high, a person feels bored. The relationship between flow and the balance of challenges and skills has been empirically supported in numerous settings (see Nakamura & Csikszentmihalyi, 2002).

Individuals experience flow in various settings and activities. Flow experience is the most frequent in structured leisure activities [e.g., Delle Fave & Massimini, 2003] or productive activities, such as work [e.g., Csikszentmihalyi & LeFevre, 1989] and study [e.g., Rijavec, Ljubin Golub, & Olčar, 2016]. Students can experience flow as part of their schoolwork and university activities (for a review see Shernoff & Csikszentmihalyi, 2009), or while studying at home [Bassi & Delle Fave, 2004].

In academic settings, flow has the potential to increase student achievement and produce the optimization of student talent [Csikszentmihalyi, Rathunde, & Whalen, 1993]. Experiencing flow in academic activities has been found to be positively related to various educational outcomes, such as a higher grade point average (GPA) [Ljubin Golub et al., 2016; Shernoff & Schmidt, 2008] and better performance [Engeser, Rheinberg, Vollmeyer, & Bischoff, 2005]. There are several possible explanations for this relationship. One of them is that flow state is intrinsically rewarding and, once experienced, students seek to replicate it. In order to do so, they have to master new challenges and develop their existing skills, which can result in better academic achievement [Nakamura & Csikszentmihalyi, 2002]. Studies have shown that experiencing flow repeatedly in any activity, including academic activities, leads to an increase in skills and competencies in that activity [Delle Fave, Massimini, & Bassi, 2011]. There is also evidence that flow is a mediating variable for the effect of motivation on performance [Vollmeyer & Rheinberg, 2006].

In addition to educational outcomes, flow was also found to contribute to students’ well-being [Asakawa, 2010]. Specifically, flow in academic activities, although less frequent, was found to be more important for students’ well-being than flow in other areas such as leisure or maintenance activities [Rijavec et al., 2016].

Previous research on academic flow was conducted mainly with high school students, while studies on university population have been less frequent. Keeping in mind all the aforementioned positive consequences of flow and the fact that it is less frequent in academic activities than in other areas of student life, it would be of great importance for university teachers and education policymakers to have an insight into the type and specific characteristics of flow-inducing academic activities. Since, to our knowledge, there are no studies on the sources of flow in academic activities in the university population of Croatia, an explorative qualitative study would provide important information
on this topic. Thus, the central aim of the study was to identify the types and characteristics of academic activities at the faculty that students report to be the most frequent source of flow experience.

Method

Participants and procedure

The sample comprised 203 university students of teacher education, mostly female (95.1%). There were 126 third-year and 77 fifth-year students. The students participated voluntarily and anonymously in the study and received no credits for their participation. An open-ended questionnaire was developed to gather data. The questionnaire was administered during regular class sessions and the students were informed that they can opt out at any time without consequences.

Measures

The participants were presented with three quotes from The Flow Questionnaire (FQ; Csikszentmihalyi & Csikszentmihalyi, 1988) that vividly describe flow experience:

“... Mind isn’t wandering. I am not thinking of something else. I am totally involved in what I am doing. My body feels good. I don’t seem to hear anything. The world seems to be cut off from me. I am less aware of myself and my problems.”

“My concentration is like breathing, I never think of it. When I start, I really do shut out the world. I am really quite oblivious to my surroundings after I really get going. I think that the phone could ring, and the doorbell could ring, or the house could burn down or something like that. When I start, I really do shut out the world. Once I stop, I can let it back in again.”

“I am so involved in what I am doing. I don’t see myself as separate from what I am doing.” (p. 195)

First, the participants were asked to indicate if they had ever experienced this state in the academic activities at the faculty. If their answer was positive, they were asked to recall one situation or activity that induced this state the most and describe it in as many details as they could (“In what situation did you experience it? What exactly were you doing? In which course? What characteristics of the task or the situation contributed to the experience?”)
In addition to that, they were also asked to assess how challenging the activity had been on a 9-point scale ranging from 1 (not at all challenging) to 9 (extremely challenging), and their level of skills for performing the activity on a 9-point scale ranging from 1 (extremely low level of skills) to 9 (extremely high level of skills).

Overview of Data Analysis

A thematic analysis was used to code the common themes of academic activities that the students described as flow-inducing. Following the procedure described by Braun and Clarke (2006), the data were read twice by the primary investigator. After that, initial codes were construed to represent the specific activities that occurred throughout the entire data set. These codes were then collated into groups of activities (categories), which were defined, named, and described. After that, a content analysis was used. For each category, the frequency of responses was recorded (including the characteristics of activities the students mentioned and their frequency), as well as the average level of challenges and skills for the activities in each category.

The analysis was done separately for the two groups of students. For each group, the major categories of activities were identified (those stated by at least 10% of the students).

Results

It was found that 43.7% of the third-year and 76.6% of the fifth-year students experienced flow in some academic activity during their studies, the difference between the two groups being significant ($\chi^2[1] = 21.10, p < .001$), with more students in the fifth year reporting the experience of flow.

The frequencies of the major categories and the median value of challenges and skills are presented in Tables 1 and 2. Some students described more than one activity.

Third-year students

Art activities and preparing for exams were by far the most frequently mentioned flow-inducing activities for the third-year students (reported by 49.3% of them) [Table 1], followed by various activities that included active involvement. The ratings of activities, challenges, and skills were above the median for all categories.
Art activities
In describing art activities, the students reported that they enjoyed doing them (n = 6), they had the necessary skills (3), and that these activities were interesting (3) and relaxing (3):

“Once we had to paint a portrait of a famous painter. I chose Van Gogh. When I started and realized how well it was going (my painting was really similar to Van Gogh), I couldn’t stop for hours.” (skills)

“I really like visual art tasks. Doing them is very enjoyable for me and I am fully concentrated.” (enjoyment)

Preparing for exams
The students who mentioned preparing for exams as a flow-inducing activity stated that the topic was interesting (n = 7), and two students reported that the preparation included some practical activity: “(I experience flow) sometimes when I study for my English course exams. They are very interesting, I enjoy learning about the topic and have a feeling that I am growing as a person.”

Various activities that include active involvement
A certain number of students stated various activities that were rather different in content, but they all included active involvement as the source of flow experience:

“I have often had this experience during choral singing especially while preparing for a performance and during the performance. We sing, dance, act, there is only us and the most wonderful professor in the world.”

### Table 1. Top four categories of flow-inducing activities for third-year students who experienced flow (N=55) and the median for challenges and skills ratings (9-point scale)

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>%</th>
<th>% total (N=126)</th>
<th>challenges</th>
<th>skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artistic activities [visual arts and music]</td>
<td>16</td>
<td>29.1</td>
<td>12.7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Preparing for exams</td>
<td>11</td>
<td>20.2</td>
<td>9.7</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Various activities that include active</td>
<td>9</td>
<td>16.4</td>
<td>7.1</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Attending lectures</td>
<td>7</td>
<td>12.7</td>
<td>5.6</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>
“I experienced this state while reading in Braille during the Inclusive pedagogy course. The task required a great deal of concentration and effort. I was totally involved, unaware of anything around me and without any interrupting thoughts.”

“While we were making dolls that we used for our show.”

“Watching a film with a child and interviewing the child afterward.”

**Attending lectures**

The students who stated that they experienced flow while attending lectures mentioned that the lectures were interesting (n = 7) and stated that the professor’s approach to teaching was the main factor for experiencing flow (n = 5).

**Fifth-year students**

Preparing for formally-assessed lectures and lecturing (lectures they themselves give in primary schools in front of pupils) were by far the most frequently mentioned flow-inducing activities for the fifth-year students (reported by 67% of them) (Table 2), followed by preparing for various obligatory tasks, exams, and group activities. The ratings of activities, challenges, and skills were above the median for all categories.

**Preparing for lectures**

In most descriptions of flow experience during lecture preparations, the students described this experience in their own words and then added some specific attributes of the activity:

<p>| Table 2. Top five categories of flow-inducing activities for fifth-year students who experienced flow (n=59) and the median for challenges and skills ratings (9-point scale) |
| --- | --- | --- | --- | --- |</p>
<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>%</th>
<th>% total (N=77)</th>
<th>Mdn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparing for lectures</td>
<td>26</td>
<td>44.1</td>
<td>33.8</td>
<td>7</td>
</tr>
<tr>
<td>Lecturing</td>
<td>14</td>
<td>23.7</td>
<td>18.2</td>
<td>7</td>
</tr>
<tr>
<td>Preparing for various obligatory tasks</td>
<td>7</td>
<td>11.9</td>
<td>9.1</td>
<td>7</td>
</tr>
<tr>
<td>Preparing for exams</td>
<td>7</td>
<td>11.9</td>
<td>9.1</td>
<td>7</td>
</tr>
<tr>
<td>Group activities</td>
<td>6</td>
<td>10.2</td>
<td>7.8</td>
<td>8</td>
</tr>
</tbody>
</table>
“I am completely absorbed in what I am doing when the topic I am preparing is extremely important and interesting. I love and enjoy preparing for lessons, I don’t think about anything else during that time and I am completely concentrated on the topic. I recall that once (while I was preparing for a Croatian language lesson) I was completely isolated from the world around me for several hours.”

“Sometimes, while preparing for a lecture, I forget to eat for hours.”

In addition to the main characteristics of flow state, the students most frequently mentioned that preparing for lectures allowed them to be creative (n = 10), it was interesting (n = 5), they enjoyed doing it (n = 5), and the activity was meaningful because they tried to prepare it so that the children would really understand it and learn about the topic (n = 3).

“I think I felt like this because mathematics is definitely the best topic that allows you to be creative.” (creativity)

“I feel like that every time the lecture I am preparing is interesting.” (interest)

“I wanted to prepare the lecture in such a way that pupils find the answers by themselves, through playing.” (meaning)

“I was really enjoying preparing that lecture.” (enjoying)

**Lecturing**

While giving a lecture, the majority of the students stated that they were completely concentrated on the lecture and the children, and were not aware of anything around them. They usually did not specify what made them enter this state of flow. The examples of these are:

“I was completely immersed in the lecture and I did not notice anything around me except the children.”

“I am completely concentrated on the lecture and the children. I neither see nor hear anything else.”

Some of the students mentioned that they try to get into that state on purpose.

“I experienced that state while giving lectures. I think it is because I feel good and I like to do it. But also because I am aware that I would not accomplish my goal if I were not totally concentrated.”

“I try not to think about anything else, especially personal problems.”
Other activities

Other activities that the students described as flow-inducing included preparing obligatory tasks, preparing for exams, and group activities. In describing obligatory tasks (such as preparing presentations and other kinds of homework) and preparing for exams, the students did not report any special attributes of the activities, except for one student who reported that she tried to make the task more challenging. “I don’t like standard presentations. They are boring. So my colleague and I decided we will do it differently. We made our presentations in the form of play”. While describing group activities, three students mentioned creativity while demonstrating their work to others; challenge and interest were mentioned once.

Discussion

Since flow experiences were found to be related to various positive educational outcomes, as well as students’ well-being, this study aimed to identify the types and characteristics of academic activities that are the most flow-inducing for university students. Using a qualitative approach, we attempted to identify in more detail the main types and attributes of these activities for students of teacher education.

The findings show that 44% of the third-year students and 77% of the fifth-year students experienced flow state at some point in academic activities related to their studies. This is consistent with previous research indicating that flow experience can emerge during academic activities in school and university (Bakker, Ljubin Golub, & Rijavec, 2017; Shernoff & Csikszentmihalyi, 2009). However, it should be noted that the percentage of the participants that reported experiencing flow in academic activities is significantly higher among the fifth-year students. This may be due to the fact that by being students for a longer period of time, they had more chances to experience flow, but also that they had an opportunity to participate in activities that are more flow-producing.

The fifth-year students showed a very clear pattern of results indicating that preparing lectures and lecturing (lectures they give in primary schools in front of pupils) are the most frequently mentioned flow-inducing academic activities reported by 52% of the total sample (and 67% of those who experienced flow). These findings could be theoretically linked to several conditions related to flow-inducing activities: a high opportunity for creativity, the importance of goals, and social identity.
Preparing for lectures and lecturing are activities that give students most opportunities to be creative and use their skills and knowledge to plan the lecture in the best way they can. In fact, both creativity and desire to help children learn were often mentioned in their descriptions. Previous studies with high school students showed that they are more likely to experience flow when academic work intellectually involves them in the process of meaningful inquiry extending beyond the classroom (Newman, Wehlage, & Lamborn, 1992). This is exactly what the students participating in this study were required to do while preparing and giving lectures.

Next, these activities are probably the most important for achieving their future goals. Being successful in preparing for lectures and lecturing is necessary not only to graduate but also to feel competent to be a teacher. Csikszentmihalyi (1991) states that if a person organizes his/her life around a central and important goal, it can lead to the feeling of general flow state. Previous studies found that students were most engaged and reported being in a better mood when they felt that their activities were relevant to their lives (Shernoff, Csikszentmihalyi, Schneider, & Steele-Shernoff, 2003).

Finally, these activities are also strongly related to students’ social identity of being teachers because the majority of them are going to enter that profession in a year or two. Recent research suggests that participation in activities that are important for identity formation at the social level [i.e., professional identification] could facilitate flow (Mao, Roberts, Pagliaro, Csikszentmihalyi, & Bonaiuto, 2016).

Apart from preparing for lectures and lecturing, the students also mentioned preparing for various obligatory tasks, exams, and group activities. Both the preparation for such tasks and group activities had common characteristics of intensive involvement, active engagement, and demonstrating skills and abilities. One study with second-year students of teacher education also showed that flow experiences were the most frequent in academic activities which involved preparations for various obligatory tasks (Rijavec et al., 2016). This is in line with the data obtained in a study with high school students, suggesting that homework is more frequently associated with flow than school-work activities (Delle Fave, 1996).

For the third-year students, the pattern of results was different. The most frequent flow-inducing activities were those related to visual art and playing an instrument. This is probably due to their interest and talents since they mostly mentioned that they enjoyed doing these activities, they had the necessary skills, and the activities were interesting and relaxing. There is also a group of various flow-inducing activities that vary in content but their main feature was that they required students to be actively engaged. These activities were
mainly related to various tasks assigned to them by teachers during seminars. In addition to these activities, preparing for exams is also mentioned by some students as a flow-inducing activity.

The least mentioned flow-inducing activity is attending lessons (mentioned only once by the fifth-year students) which is in accordance with previous research with university students showing that flow is least frequent during lessons (Rijavec et al., 2016). Studies with high school students found that students were most engaged in school while taking tests, doing individual work, and doing group work, and less so when listening to lectures or watching videos (Shernoff, Knauth, & Makris, 2000). Since students spend a considerable amount of time passively listening to lectures, they may not be adequately challenged or motivated to learn.

Generally, it can be concluded that flow-inducing academic activities are different for the third- and fifth-year students. For the older students, these mainly include various interesting obligatory tasks (preparing for lectures, lecturing, preparing obligatory tasks, and exams) that offer them an opportunity to be creative and demonstrate their skills both at the faculty and in the real-life context. For the third-year students, these are mainly various engaging activities related to their interest, talents, and specific activities during lessons and seminars. However, both groups of students stated that both challenges and skills for the mentioned flow-inducing activities were above average, confirming that both high challenges and high skills are necessary to flow state to occur.

In the last decade, several authors suggested that traditional educational methods mostly seem to fail to provide experiences that students find meaningful (Shernoff & Csikszentmihalyi, 2009). For example, Csikszentmihalyi (1991) stressed that “perhaps the most powerful effect flow theory could have in the public sector is in providing a blueprint for how institutions may be reformed so as to make them more conducive to optimal experience” (p. 191).

Although it is a fact that much of the students’ motivation to learn stems from their interests, teachers also play an important role in the engagement of their students. Teacher- and classroom-level variables explain a significant portion of student engagement (Hill & Rowe, 1996). Our study also suggests that students become more engaged if the academic activities match their interests and present opportunities for active engagement and demonstration of their skills.

This study has a number of limitations that must be taken into account. Namely, it involved only students of university teacher education (mainly female) and did not sample the experiences of students at other faculties. The types and characteristics of flow-inducing activities for students at other faculties or male students may be quite different. Future research should include
students of both genders and different faculties to see whether the same patterns of results would be replicated.

Another limitation stems from the fact that the students wrote about their flow experiences in academic activities, rather than being interviewed about them. It is possible that some students are less prone to writing about their experiences and for them, an interview might have been a better approach for this research aim.

However, the study presents important information for university teachers and can be the first step for further quantitative research about the frequency and intensity of specific flow-inducing academic activities and their relation to relevant educational and well-being outcomes.

**Conclusion**

The results show that 44% of the third-year students and 77% of the fifth-year students experienced flow at some point in their academic activities. However, flow-inducing academic activities are different for the third- and fifth-year students. The later experience flow most frequently while preparing lectures and lecturing, whereas the former experience flow in various engaging activities related to their interest, talents, and specific activities during lessons and seminars.

This preliminary evaluation suggests that academic activities should be designed so as to offer students possibilities to use and develop their skills in practical activities related to their interests and future professions. According to Csikszentmihalyi [1991], such challenging and meaningful activities would foster intrinsic motivation with the primary focus on improving the quality of students’ academic experiences.

**References**


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