

# How UDL context cards have been used for inclusive teaching

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**Abstract**— A deck of 67 context cards for Universal Design for Learning (UDL) was developed at four international teacher workshops, to help teachers understand and improve inclusive teaching, i.e. to be proactive and prepared for student diversity. The printed cards have been picked up or ordered by approximately 150 people. This paper presents the results of a questionnaire sent to 44 people.

The results from 28 respondents show that the cards have been used in four ways: 1) As inspiration for discussions about inclusive teaching in pedagogical courses, 2) At teacher meetings in the department/division, 3) To improve teachers' own courses, and 4) To play a (serious) game with friends for fun and learning.

The usefulness of the cards has been rated with an average of 8.8 on a scale from 0 (not at all useful) to 10 (very useful).

**Index Terms**—Context cards, inclusive teaching, teacher training, UDL, Universal Design for Learning

## I. INTRODUCTION

DESIGN cards are valuable tools for design practitioners during their design and development processes, as the cards convey different types of design knowledge, such as creative inspiration, human insights, problem definition, and values in practice. This is the result from an analysis and classification of 161 decks of design cards from 1952-2020 [1]. Therefore, design cards should also be valuable tools for higher education teachers when designing and developing inclusive teaching.

In the European HaptiMap project context cards [2] were developed to support designers of mobile navigation applications to consider the *situational* impairment of a user on the move. The designer should reflect on: “*How does this application work under certain conditions?*”? The cards have worked well for inspiration and during co-creation workshops for idea generation [3].

A deck of variation cards [4] in Swedish has been developed for use in public procurement of the built environment to ensure that human diversity is considered throughout the design process. Each card focuses on variation, to serve as a reminder of human diversity in the population and to reduce the risk of using oneself as a reference in the design process [5].

### A. The UDeL context cards

A deck of 67 context cards for Universal Design for eLearning (UDeL) [6], see Fig. 1, was developed at four international teacher workshops [7] within the Erasmus+

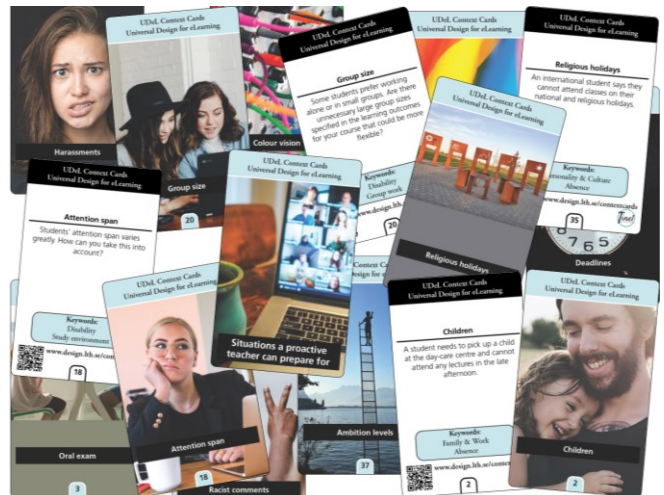


Fig. 1. Some of the UDeL context cards. Each card shows a headline and an image on the front side, and a description of a situation on the back side.

TINEL project (Towards Inclusive eLearning, 2018-2021), to help teachers understand and improve inclusive teaching, i.e. to be proactive and prepared for student diversity. The situations on the cards were developed for eLearning and blended learning, but most situations are also relevant for campus-based learning.

The purpose of the cards is to show examples of situations related to inclusive teaching and trigger pedagogical discussions about teachers' own examples of unexpected situations and how they can be proactively resolved by planning for flexibility in scheduling, teaching and examination, as well as by removing *unnecessary* obstacles in the curriculum.

This is closely related to the three guidelines of Universal Design for Learning (UDL) [8]:

- Design multiple means of *representation*, i.e. how students can obtain information.
- Design multiple means of *action and expression*, i.e. how students can demonstrate their knowledge.
- Design multiple means of *engagement*, i.e. how students can be motivated.

30 teachers, academic developers and librarians from Sweden, Norway, Finland, and Great Britain contributed with examples of unexpected situations in their teaching.

140 examples were categorized and reduced to 67 situations in relation to student diversity and different learning activities and material, see Fig. 2.

The cards have been presented to approximately 500 teachers, academic developers, librarians, and student support coordinators at Lund University, and externally at information days on universal design and technology to approximately 300 participants. A total of 400 decks were

**Student diversity:**

- Disability
- Personality & Culture
- Family & Work
- Financial situation
- Language & Digital skills
- Age & Work experience
- Respect & Expectations
- Study environment

**Learning activities and material:**

- Lecture
- Group work
- Written exam
- Oral presentation
- Absence
- Study material

Fig. 2. The situations on the cards are categorized in relation to student diversity and different learning activities and material.

printed in English, Swedish and Norwegian, and have been picked up or ordered by approximately 150 people.

## II. METHOD

A short questionnaire was sent via email to the 44 people in Sweden who had received (picked up or ordered) one or more decks of cards in the past three years.

Initial questions were asked about their functions or roles at work, how carefully they have read the situations on the cards, and with how many people they have had pedagogical discussions about the situations on the cards and where in the organization these “significant others” [9] were located.

Questions were also asked about whether and how they have used the cards (if not, why they have not used them and whether and why they might use them in the future), how useful they find the cards, what questions and reactions they have received about the cards or situations, as well as their own experiences and reflections on using the cards.

## III. RESULTS

### A. Who answered the questionnaire?

28 out of 44 people answered the questionnaire: 18 from Lund University, seven from other Swedish universities, two from Swedish regions (self-governing administrations), and one from Komvux (municipal adult education).

The 28 respondents have the following roles: 11 are teachers, six are student support coordinators, four are academic developers, three are operational managers, two are doctoral students, one is an administrative coordinator, and one is a special education teacher.

### B. Who has used the UDeL context cards?

17 out of 28 respondents have used the cards, of which 11 have read the descriptions of at least half of the 67 cards.

11 respondents have not used the cards. However, two of the non-users have read the descriptions of at least half of the 67 cards, see Fig. 3, and five non-users say they will use them in the future.

14 out of 17 users rated the cards' usefulness between 7 and 10, with an average of 8.8, on a scale from 0 (not at all useful) to 10 (very useful), see Fig. 4.

### C. In what situations have they used the cards?

Four use cases were identified:

1. As inspiration for discussions about inclusive teaching in pedagogical courses.
2. At teacher meetings in the department/division.
3. To improve teachers' own courses.
4. To play a (serious) game with friends for fun and to learn.

### How carefully have you read the situations on the cards?

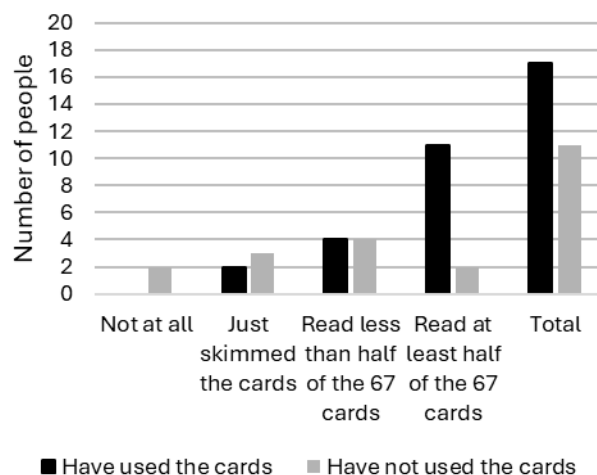


Fig. 3. How carefully 17 users and 11 non-users have read the descriptions of the cards.

### How useful do you think the cards are?

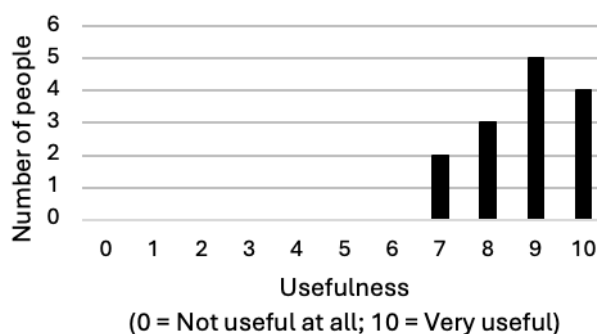


Fig. 4. How useful 14 users think the cards are.

### D. Pedagogical discussions about the situations

Three academic developers, three student support coordinators, and eight teachers have used the cards. On average, the teachers have had pedagogical discussions about situations on the cards with 7.4 people (43% of a total of 59 contacts are people within their immediate group, 23% within their department/unit, 14% from other parts of their organization, and 3% outside their organization. 17% of the contacts were not specified), see Fig. 5.

### E. Questions and reactions when using the cards

Overall, the users of the cards have received positive reactions, and the cards have triggered valuable discussions. Sometimes it has been difficult to convey the benefits of the cards. Also, the sheer number of situations on the cards can be overwhelming if you do not stress the “one step at a time” approach to inclusion.

### F. Experiences and reflections from using the cards

Academic developers are positive about using the cards. A student support coordinator would like more cards about attitudes and treatment. Teachers and a doctoral student are positive about discussing the situations on the cards, but they often feel discouraged due to lack of time to improve education.

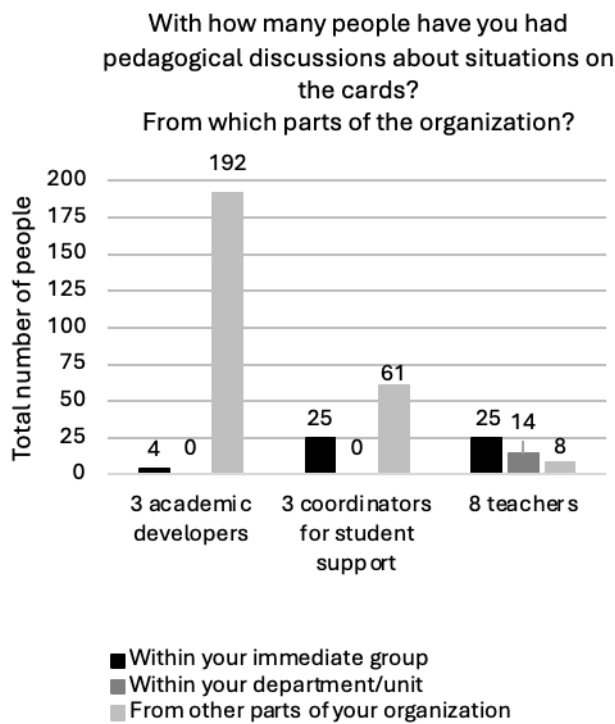


Fig. 5. With how many people have you had pedagogical discussions about situations on the cards? From which parts of the organization?

#### IV. DISCUSSION

The average number of people with whom teachers have had pedagogical discussions about situations on the cards, in this study 7.4, is entirely consistent with the study in [9], where the average number of conversation partners with whom they had serious discussions about teaching was between 5.4 (engineering studies) and 8.4 (social sciences).

Regarding where in the organization these significant others are located, the eight teachers in this study have on average more pedagogical discussions within their immediate group and their department/unit compared to the study in [9] and fewer discussions with people from other parts of and outside their organization.

When teachers feel they do not have time to prioritize inclusive teaching it is important to ensure they meet and learn from students with disabilities, such as in pedagogical courses. This can create an upward spiral of positive change, as *“more exposure to individuals with disabilities may lead to better understanding of disability and higher levels of acceptance. Thus, attitudes drive behavior, which, in turn, affects the individual’s knowledge, beliefs, and attitudes”* [10].

As a complement, the discussion of the UDeL context cards will further increase the understanding of student diversity.

In the article on the HaptiMap context cards [3], the authors recommend designing a poster that displays all the cards and putting it on a wall where designers see it, as the poster remains even long after a project is completed.

Organizations also need to better support the usability and applicability of design cards, e.g. by adopting and implementing them into organizational workflows [1].

Information from heads of department and newsletters should include the importance of inclusive teaching.

Similarly, it is important that student diversity is reflected on university websites and in pedagogical courses, as the perceptions of users’ abilities have been shown to drive choices and priorities in the planning and designing of buildings and places [11]. This is likely to be the case when teachers plan and design courses as well.

#### V. CONCLUSION

The usefulness of the UDeL context cards has been rated with an average of 8.8 on a scale from 0 (not at all useful) to 10 (very useful). When used, the cards have received positive feedback and triggered valuable discussions about teachers’ own practices. However, the sheer number of situations can be overwhelming, so choosing one card at a time can prevent them from becoming defensive and withdraw from their responsibility for inclusive teaching.

Some teachers believe that education is not a priority within academia because there are no time, budget, and incentive to improve their teaching.

The most effective way to use the UDeL context cards to get teachers to reflect on inclusive teaching seems to be through pedagogical courses or pedagogical workshops, and not just giving the cards to the teachers, as they may forget about them or feel they do not have time to use them.

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