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Dimensions of Remote Learning during the Covid-19 Pandemic in Minority Language Schools (The Case of Austrian Carinthia)

Based on a survey conducted among teachers in three schools in Austrian Carinthia where the language of instruction is (also) Slovene, the article examines the impact of remote learning between March and June – i.e. during the first wave of the Covid-19 pandemic – on a possible deterioration of students' language skills. The results also bring new data and insight into teachers' language accommodation. The results confirm the predominance of reading and writing communication with a minimum use of audio-video technology. The lower input of verbal communication mainly affected students with (strongly) unbalanced linguistic competence in both languages of instruction. Education is an important factor in reducing inequalities in society; thus, as long as remote learning increases inequality, this form of education should be pursued with some reservations.

Keywords: Covid-19, remote learning, minority language, language accommodation, language input.

Razsežnosti pouka na daljavo v času pandemije covid-19 na šolah z manjšinskim jezikom (primer avstrijske Koroške)

V članku na podlagi opravljene ankete med profesorji na treh šolah na avstrijskem Koroškem, na katerih je učni jezik (tudi) slovenščina, preverimo, kakšen učinek je imel pouk na daljavo od marca do junija, tj. v času prvega vala pandemije covid-19, na morebitno poslabšanje jezikovne zmožnosti pri dijakih. Obenem rezultati prinašajo nove podatke in vpogled v jezikovno prilagajanje učiteljev. Rezultati potrdijo prevladovanje bralno-pisne komunikacije z minimalno uporabo avdio-video tehnologije. Manjši vnos govorne komunikacije je pustil posledice predvsem pri dijakih z (močno) neuravnoteženo jezikovno kompetenco v obeh obravnavanih učnih jezikih. Izobrazba je pomemben dejavnik za zmanjševanje neenakosti v družbi, zato bi morali biti, dokler bo šolanje na daljavo neenakost povečevalo, do te oblike izobraževanja bolj zadržani.

Ključne besede: covid-19, pouk na daljavo, manjšinski jezik, jezikovno prilagajanje, jezikovni vnos.

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1. Introduction

The emergency related to the Covid-19 pandemic produced an unprecedented situation in which schools around the world were closed as a result of public health measures, leaving over 91 % of pre-school, primary and secondary school children confined at home (UNESCO 2020a). School closure is a common-sense measure to prevent the spread of the disease, especially if one considers the rather convincing evidence of previous influenza outbreaks. A systematic review thereof shows that school closure is likely to have the greatest effect if the virus has low transmissibility ($R < 2$) and, in particular, if attack rates are higher in children than in adults, which however is not true in the case of Covid-19 (cf. Viner et al. 2020). Given the evidence on the unaffectedness and lower transmission frequency among children, the closure of educational institutions thus raises certain ethical issues (Silverman et al. 2020), especially in terms of justification and proportionality of this measure in relation to its impact and consequences for very young children and those from marginalised and deprived environments. At the same time, data reveal the enormous economic and social effects of school closure both in the short term (drastic decline in the domestic product, the loss of healthcare staff to childcare duties, which is felt throughout the healthcare system) and in the long run, as the education of the population is one of the strongest predictors of the health and the wealth of future taxpayers and the impact of long-term school closure on educational outcomes, future earnings, young people's health, and productivity of individual national economies has not yet been quantified (Viner et al. 2020).

The unexpected interruption of the learning process in schools forced decision-makers, teachers, students, and parents into a prompt adjustment related to the introduction of remote learning at all levels of education. The latter should serve as a good lesson for all participants, as the following months have shown both the advantages and the disadvantages of the rapidly introduced remote learning method, which could be a good basis for introducing better, more open, inclusive, and flexible educational systems for post-pandemic times and in anticipation of subsequent pandemics.

Based on a survey among teachers, the present article will explore the situation during remote learning in three schools in Carinthia, Austria, where the language of instruction is (also) Slovene. The emphasis of the research is on the perception of a possible deterioration of knowledge of the languages of instruction (Slovene and German) in the above schools. The introductory part will be followed by a review of the relevant literature on remote learning with an emphasis on its positive and negative consequences and the school systems' preparedness to switch to remote learning and cope with the new situation at all levels of the educational system. The next chapter presenting the methodology used and the results of the survey will be followed by data interpretation and discussion and

by a conclusion containing suggestions for better management of the situation in the event of a possible new pandemic.

Research on minority education is important from several aspects, primarily of course for members of the minority who, thanks to the possibility of education in their first language, are enabled comprehensive development and equal opportunities compared to the majority. At the same time, it is necessary to pay attention to the changing circumstances that posed challenges to minority education even before the introduction of remote learning due to Covid-19 (Zudič Antonič 2018; Baloh & Bratož 2019; Zorčič 2019). In view of the new situation, the present research sheds light on the problems currently faced in minority education (in Austrian Carinthia).

2. Remote Learning and the Consequences Thereof

Remote learning is characterised by temporal and/or spatial separation, which is compensated by the use of media and technology. Communication and exchange of materials in the learning process take place through printed learning material, one-way transmission on radio or television, and/or through online exchange via social media channels or learning platforms. However, remote learning requires a high level of self-guided learning and learning skills on the part of the learner, as well as the use of new techniques and learning and guidance strategies on the part of the teacher, all aspects of the readiness for remote learning, which consists of (1) technological readiness (technological capacities in the form of equipment and digital environments that enable the transfer of learning content, and (excellent) Internet access), (2) content readiness (accessibility of curricular learning content on learning platforms, programmes), (3) readiness for pedagogical and learning support to remote learning (teachers' willingness to adapt, parents' or guardians' competence and ability to ensure effective remote learning), and (4) monitoring and evaluation of readiness (monitoring the process, participation and results of remote learning) (UNESCO 2020b). However, the rapid transition to home-schooling in spring did not allow quality remote learning, which could otherwise, if well prepared, be fully successful. According to Hodges et al. (2020), the type of remote learning witnessed would better be called emergency remote teaching (ERT). In an interview, Dr. Štefanec, a Slovene expert in pedagogy and didactics (2020), points out that teachers largely provided distance teaching, i.e. passed out assignments and provided guidelines and instructions to pupils for work from home, while there was less actual remote learning – i.e. contact and knowledge transfer between teachers and students. Data on schools' teachers' and pupils' preparedness for the shift that took place practically overnight (on 16 March, education in both Slovenia and Austria shifted to remote learning) were provided also by the OCED (Albiser et al. 2020), which assessed the preparedness of schools, teachers, and students from individual co-

ountries for the transition to remote learning based on various studies (TALIS, PISA) from the time before the pandemic. Data for Austria (Albiser et al. 2020) showed lower preparedness (especially among teachers) than the average of the countries involved in the research. For Austrian students, data showed above-average results (95 % of students reported having a computer – 88 % from the bottom quartile of the socio-economic distribution; 96 % reported having a quiet space to study – 93 % from the bottom quartile of the socio-economic distribution). The reason for the academic support from parents to students in Austria being below the OECD average is to be sought in the fact that academic support is hindered by language barriers, as according to the same report, in Austria 20 % of the students report that the language used at home most of the time is different from the language of the PISA test (OECD average: 12 %). This is the case for 41 % of the students coming from the bottom quartile of the socio-economic distribution (OECD average: 19 %) (for more see Albiser et al. 2020). The extraordinary efforts made by parents to provide support in remote learning during the pandemic to children whose family language is not the same as the language used in school are highlighted by numerous studies (e.g. Sayer & Braun 2020), and similar conclusions were drawn by researchers in Slovenia, too (e.g. Bešter & Pirc 2020; Sorgo & Novak Lukanovič 2020; Brezigar 2020). Extreme inequalities between students during remote learning associated with economic status (and other related factors: low parents' education and their involvement in schooling, inaccessibility of the internet, a computer, or a place to study) detected in some European countries (cf. Blaskó & Schnepf 2020; Reay 2020) are not that noticeable in the environments in Austria and Slovenia from which the majority of students covered by the research come from. The presented data are therefore only partially applicable to the schools where the research was conducted as they show the situation in the entire country, whereas this article only studies three specific schools in Austrian Carinthia. However, it is important to keep in mind the connection with the language barriers of the parents and/or lower socio-economic status of the family. In Carinthia, schools with Slovene as the language of instruction are also attended by German-speaking students, who on average have lower economic capital than their classmates who use Slovene at home (Zorčič 2020). Attending a bilingual school is one of the ways to raise their cultural (bilingual *matura* exam) and economic (e.g. greater competitiveness in the local labour market) capital in the future (Zorčič 2019), while for students from Slovenia the situation is reversed, as those who enrol in Austrian schools are normally those with higher average economic capital who can afford the costs of living and studying abroad (Zorčič 2020). Also in this study we presumed that as a result of exclusion from the school environment during remote learning and holidays, the language input of the second language will be much lower in both groups of students with (strongly) unbalanced linguistic competence in one of the languages of instruction, i.e. students from Slovenia and Au-

stria (see below). As the strongly unbalanced bilingualism of the mentioned students is the result of a monolingual family and (usually also) local environment, they are hereinafter referred to as Slovene or German monolingual students.

The negative effects of school closure are felt in various areas. The most obvious are the consequences for the health of children, predicting health problems in children in the long run (cf. Rundle et al. 2020). Research in Slovenia even shows the largest decline in children's motor performance ever, the largest decline in the number of previously active children, the largest increase in subcutaneous fat, and the largest increase in obesity, all as a result of three months of lockdown and closure of schools, gyms, and playgrounds (SLOfit 2020). The Chamber of Clinical Psychologists of Slovenia has developed guidelines for educators in the field of children's mental health in relation to the Covid-19 pandemic (Dobnik Renko et al. 2020). Often, the professional public and teachers at various roundtables (e.g. LMSŠ – List of Marjan Šarec 2020) themselves pointed out the negative consequences of closure, even by means of various petitions for the abolition of remote learning or its non-introduction in the next school year (e.g. teachers of the Prva gimnazija Maribor (STA 2020)).

2.1 Impact on Language

Research on literacy and language learning deficits due to school closure is sporadic and dealing mainly with English-speaking learners. The studies conducted suggest that the rapid introduction of remote learning also had an impact on literacy and language skills, especially for children who do not speak the language of instruction at home and/or come from a socially weaker environment, where parents are, for various reasons, unable to provide a language input comparable to that obtained in school. They also point to the consequences of the lack of meaningful social interactions needed to support (foreign) language learning. The school setting, which was unavailable to children during the pandemic, is a place of rich social and academic interaction with both peers and teachers. At the same time, remote learning reduced listening and speaking practice (and consequently the decline of these two specific linguistic competencies), as learning mostly focused on reading and writing (both in terms of teachers passing out assignments and of students completing them). The decline in verbal and listening communication is particularly harmful in foreign language learning (cf. Sayer & Braun 2020). This hasty transition was probably also the reason why (language) teachers failed to make extensive use of various videoconferencing systems that already offer additional communication options (e.g. through Zoom cf. Kohnke & Moorhouse 2020), as well as of alternatives offered by various applications for language teaching/learning (cf. Gulli n et al. 2020). Research showed a particular problem in language acquisition in young (monolingual) children during the lockdown. Some studies linked the negative effects on language (language deve-

lopment delays, memory loss, problems concentrating and describing events/stories) to stress and isolation, while an undeniable effect was also attributed to a low family income (Kamal et al. 2020). Other research focused on measuring the loss of literacy due to absenteeism, where five to six-year-olds showed a 66 % reduction in literacy (Bao et al. 2020) during the closure of preschool educational institutions and the abolition of in-person learning. Daily reading to children improved the result (only) by 43 %. This means that reading books to children cannot substitute for the failure of formal language learning, but it is still a good way to mitigate the consequences during the complete closure of schools that manifest themselves as loss of reading ability. Reading is also an effective method during school holidays as they, too, lead to lower grades on tests, although the losses in mathematics are greater than in reading (a book is more accessible than a math instructor). Moreover, the economic aspect is highly relevant, as the disparities in learning are smaller in children from advantaged families and larger in children from socially weaker backgrounds (where the language is often a cause-and-effect category) (cf. Burkam et al. 2004) and growing with age, i.e. with increases in students' grade levels (Cooper et al. 1996).

Also in Canada, researchers warned about the consequences that the closure of educational institutions would have on children: "children in Quebec from non-francophone families and children from non-anglophone families in English-speaking regions may have deterioration in their ability to speak and write comfortably in the local language, setting them further behind once class resume" (Silverman 2020, 463). In our case, too, in both groups of monolingual students, i.e. from Slovenia and Austria, a lower language input of the second language during remote learning and subsequent holidays is to be expected. The effect on monolingual students is likely to be much stronger than on bilingual students from Carinthia where language input is more even (while one could still argue that the input of standard Slovene at that time was lower than it would have been if students were in class). Another reason why the consequences could not be any milder is the students' poor reading habits (cf. Zorčič 2019).

The shift to remote learning was stressful for teachers as well. This fact deserves special attention due to the possible negative effect of teacher stress on students, known as stress-contagion (Oberle & Schonert-Reichel 2016, cited in MacIntyre et al. 2020). Herman et al. (2020, cited in MacIntyre et al. 2020) proposed the 3C Theory of Teachers Stress that describes three interconnected pathways leading to teacher stress, integrating individual differences in teachers' (1) coping, (2) competence in executing effective practices of teaching-learning process, and the systemic (3) context in which teaching occurs (policies, practices, and administrative support). Accordingly, the results of research on teacher stress during online learning confirm that the most stressful for teachers was workload followed by family health and loss of control over work (MacIntyre et al. 2020). Nevertheless, the predominant tendency was to apply an active response

to a stressful situation to first accept the situation and attempt to deal with it through activity, reframing, and seeking emotional support. The study also confirmed that individual teachers whose response was more avoidant experienced significantly higher stress levels and various negative emotions (anxiety, anger, sadness, and loneliness). This is reason enough that learning to deal effectively with stress should be integrated into teacher education programmes as one of their basic professional competencies.

Teachers experienced stress not only due to previous insufficient preparations for remote teaching in terms of digital skills (see above), but also because in the new situation they also had to reconcile their personal and professional life, which was – as for many of us – indeed particularly challenging. In this context, it would be advisable to assess the stress of female teachers, as according to the research of the Institute for the Study of Gender Equality (Pavlič 2020), in addition to work from home and childcare, they also carried most household responsibilities, which further increased their stress.

Most countries attempted to identify and analyse the changes caused by remote learning at different levels through various studies. The research was conducted both in Slovenia and in Austria (e.g. under the School Barometer survey for German-speaking countries (2020)). The methodological issues related to such research were well substantiated by Huber and Helm (2020) based on theoretical findings in the practical part of the School Barometer survey questionnaire. The most disputable issue in such regard is that general research does not cover various (largely) vulnerable groups. This is also the point at which the Slovene survey failed in terms of methodology (Mladina 2020).

Nevertheless, some teachers also report some silver linings of the forced remote learning (cf. Sayer & Braun 2020). First and foremost, they emphasise the connections with the families of (linguistically and socially deprived) students, as parents gained more insight into the actual content and processes of their children's learning, while teachers could grasp what sort of real-world challenges the students faced in trying to complete academic tasks, from not having a quiet place to study or even internet access to parents working long hours to put food on the table. The connections forged are likely to pay dividends for students down the road. The second positive outcome was the increase in students' (and teachers') skills to use the new technologies in remote learning.

3. Methodology

The article will answer the following research question:

What are the dimensions of remote learning in minority language schools?

The research thus focuses on the perception of a possible decrease in knowledge of the languages of instruction (Slovene and German) in three minority secondary schools in Carinthia, Austria, where the language of instruction is

(also) Slovene. These are the Slovene *Gimnazija* (secondary school) in Klagenfurt (hereinafter: *Gimnazija*) where the language of instruction is Slovene only, and two vocational schools – the Commercial College in Klagenfurt (hereinafter: TAK) and the College for Commercial Vocations in St. Peter (hereinafter: VŠGP) – where the languages of instruction are Slovene and German in alternating monthly intervals. Based on a survey among teachers of the above schools, we wished to verify the following: how did they cope with remote learning (explanation of learning content, passing out assignments, communication), what was the communication with students (languages used, language accommodation), teachers' opinion about the impact of online classes on the quality of knowledge of learning content and language(s) of instruction, and changes necessary for better functioning and performance of remote learning. Auxiliary data to help with the analysis included information on the school where teachers work, the type of subject taught, length of service, and self-assessed bilingualism balance (equally fluent in both languages or bilingual with better competence in one or the other language).

Given the requirements imposed due to the pandemic, data were only acquired remotely. In addition to studying the official media channels on both sides of the border, written correspondence with the management of all three schools and the Consulate of the Republic of Slovenia in Klagenfurt took place during the period of remote learning in April and May. After the initial familiarisation with the situation, a short survey was drawn up for teachers engaged in remote learning at the schools in question, who were encouraged to complete it by the management of their school. To obtain a sufficient number of participating teachers, the latter had to be called upon by the school management to participate and the survey had to be kept short (the respondents completed it on average in about 6 minutes), as teachers were already heavily burdened with requests for evaluation of remote learning from different levels: state, institutional and (hopefully also) personal. In the period between 15 June 2020 and 11 September 2020 when the survey was open and accessible on the 1ka portal, the survey was completed by 43 teachers.¹

The survey was compiled with due consideration of the different ways in which schools use Slovene as the language of instruction and the differing structure of students. It should be mentioned at this point that the two vocational schools have many monolingual students (both Slovene-speaking students from Slovenia and German-speaking students from Austria), while at the *Gimnazija* the majority of students are bilingual. Differences in teachers' answers regarding the linguistic competences of students were expected due to differences in the way Slovene is used as the language of instruction, as well as due to different structure of students. The data were analysed with the Orange Data Mining 3.26 open-source software tool (Demšar et al. 2013). The analysis of data also covered students' posts to the VŠGP blog during lockdown and data of the internal

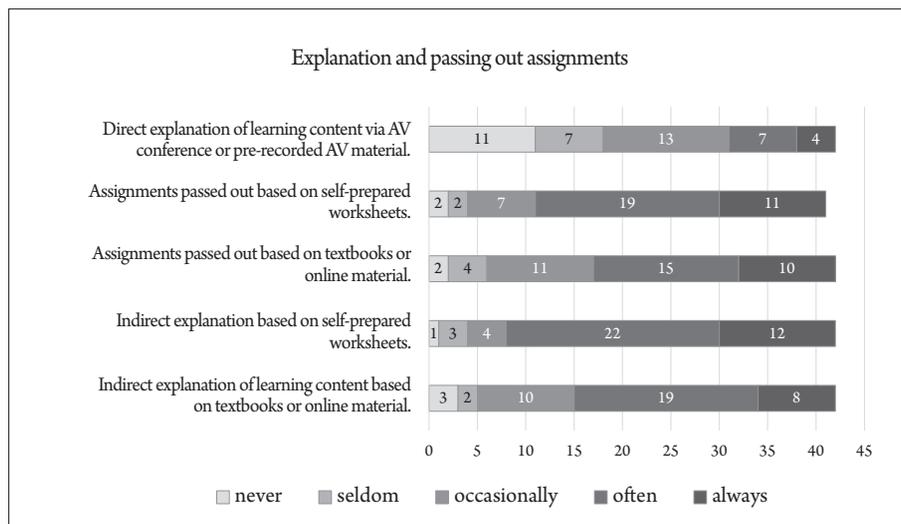
survey conducted among the students of the TAK kindly provided by the school principal, Mag. Pogelschek.

4. Results

4.1 Conduct of Classes: Providing Explanation and Passing out Assignments

Teachers' answers confirmed (Chart 1) that the explanation of learning content and the passing out of assignments were largely based on reading and writing communication. For nearly two-thirds of the teachers (64.29 %), the explanation was (often or always) indirect, carried out by means of textbooks and even more so by means of worksheets (often or always, 80.95 % of the teachers), while audio-video explanation was provided by a mere quarter (often or always, 26.19 %). Assignments were passed out in a similar way: textbooks (often or always, 59.52 %) and worksheets (often or always, 71.43 %).

Chart 1: *Explanation and passing out assignments*



Source: survey.

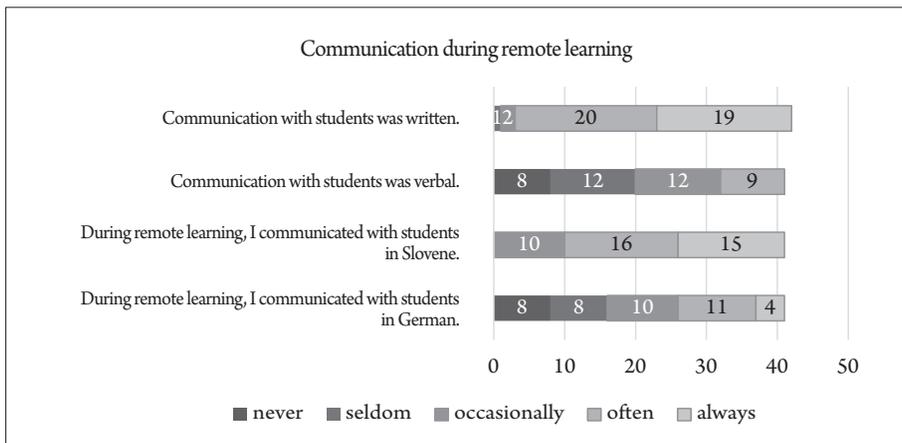
A subsequent analysis² of the data showed that, during remote learning, teachers who made greater use of audio-video (AV) and hence verbal communication communicated with students largely in German. They define themselves as bilingual with a better knowledge of German and have, on average, a shorter length of service in the school (these data are statistically insignificant). It is thus advisable to further investigate the bilingualism of the teachers and check whether

the dominance of German among younger teachers is already a consequence of the general decline in the knowledge of Slovene and the resulting poorer vitalisation of Slovene in Austrian Carinthia in the long run. Of particular concern is the non-use of AV communication by language subject teachers (more on that below).

4.2 Teachers' Communication and Language Accommodation

Teachers' answers (Chart 2) confirmed that communication with students during remote learning was much more written (always 45.24 %, often 47.62 %) than verbal (never 19.05 %, seldom 28.57 %). The use of language in teacher-student communication shows that Slovene was used more (always 36.5 %, often 39 %, occasionally 24.5 %) than German (always 10 %, often 26.5 %, occasionally 23.5 %, seldom 19.5 %, never 19.5 %), which is in line with the fact that Slovene is the language of instruction and the predominant language of communication in the *Gimnazija*. The presence of Slovene in communication with students greatly influences teachers' opinions about students' language deterioration (below).

Chart 2: Communication during remote learning



Source: survey.

Although based on teachers' self-assessment, the answers about language accommodation in schools with (also) Slovene language of instruction in Austrian Carinthia provide completely new and important data. They are the first of their kind, as data on teachers' language accommodation in the academic process have so far not been available to researchers. Data on the extent of language accommodation in the period preceding the pandemic (i.e. under the normal school regime) were obtained by measuring the teachers' agreement with

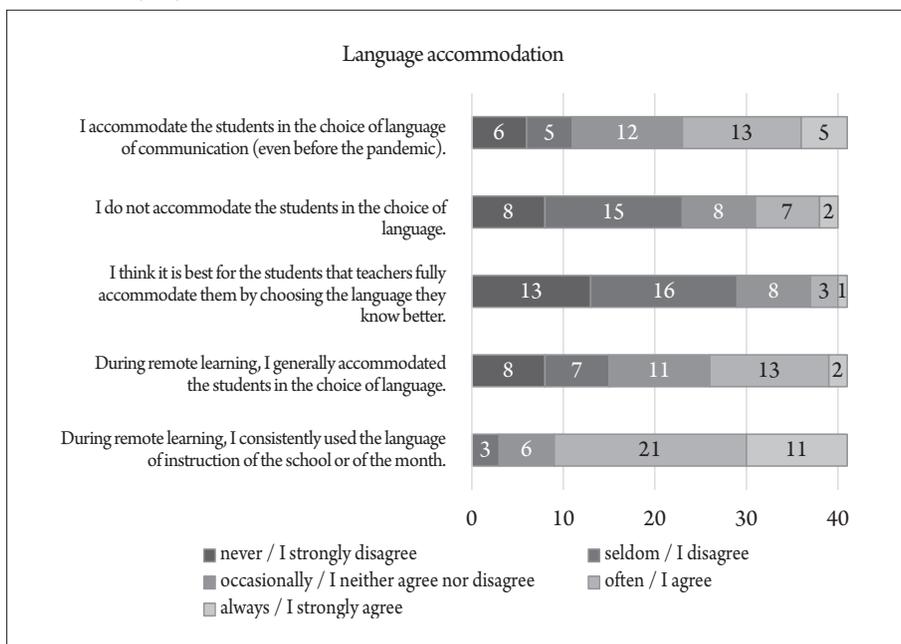
the following, non-sequentially listed statements: “I accommodate students in the choice of language of communication (even before the pandemic)”, “I do not accommodate students in the choice of language”, and “I think it is best for students that teachers fully accommodate them by choosing the language they know better”. Data show (Chart 3) that teachers generally accommodate the students. Under normal circumstances, a good tenth (11.90 %) of the teachers always accommodate the students in communication, often almost a third (30.95 %), and occasionally a little less (28.57 %). Overall, 71.42 % of teachers accommodate the students to a certain extent, while just over a quarter (26.19 %) do so seldom (11.90 %) or never (14.29 %). Data are (statistically significantly) confirmed by the teachers’ agreement with the opposite statement, i.e. that they do not accommodate students in the choice of language. Here, almost a fifth of the teachers (19.05 %) strongly disagree and almost a third disagree (35.17 %), meaning that more than half of the teachers (54.76 %) disagree with the statement and accommodate the students in the choice of language. One-fifth of the teachers claim that they do not accommodate the students and agree (16.67 %) or strongly agree (4.76 %) with the statement. A comparison of these data with the data on teachers’ agreement with the statement that it is good for the students to choose the language that they know best reveals that language accommodation in the schools in question is imperative for (fast and effective) communication. Although over two-thirds of the teachers (69.05 % disagree (30,95 % strongly disagree, 38.10 % disagree) that language accommodation is good for students, they still accommodate them in the choice of language.

A subsequent analysis of teachers’ language accommodation by subject, school, length of service, and self-assessed bilingualism balance shows the following (statistically insignificant) data: language teachers accommodate less, while teachers with shorter length of service and bilingual teachers with better knowledge of German accommodate more. Additional insight is provided by the statistically significant difference ($p = 0.048$) between teachers’ language accommodation and their use of language during remote learning. Teachers who use more Slovene accommodate less, while teachers who use more German are more inclined to language accommodation ($p = 0.017$) and indeed accommodated more during the pandemic ($p = 0.003$). The fact that bilingual teachers who speak Slovene better (and also speak more Slovene) accommodate less is further confirmed by the fact that these teachers largely agree with the statement that knowledge of Slovene among German-speaking students deteriorated ($p = 0.044$).

On average, teachers who accommodate the students in the choice of language and believe that this is in the students’ best interest also use AV communication more often and provide learning content directly; at the same time, during remote learning, teachers who believe that accommodation is in the students’ best interest always and often communicated with students in German ($p = 0.005$).

These teachers are also the most convinced that, despite remote learning, students achieved suitable knowledge of the learning content in their subjects ($p = 0.020$), probably because they put content before language. Likewise, they agree less with the statement that the knowledge of Slovene among German-speaking students deteriorated, which may also indicate a different subjective evaluation of the students' knowledge of Slovene among the teachers. They also express their self-confidence in the implementation of remote learning through a higher level of agreement with the statement that remote learning would be an interesting added value for cross-border schools. By cross-border schools, the author means schools attended by students from both sides of the border.

Chart 3: Language accommodation



Source: survey.

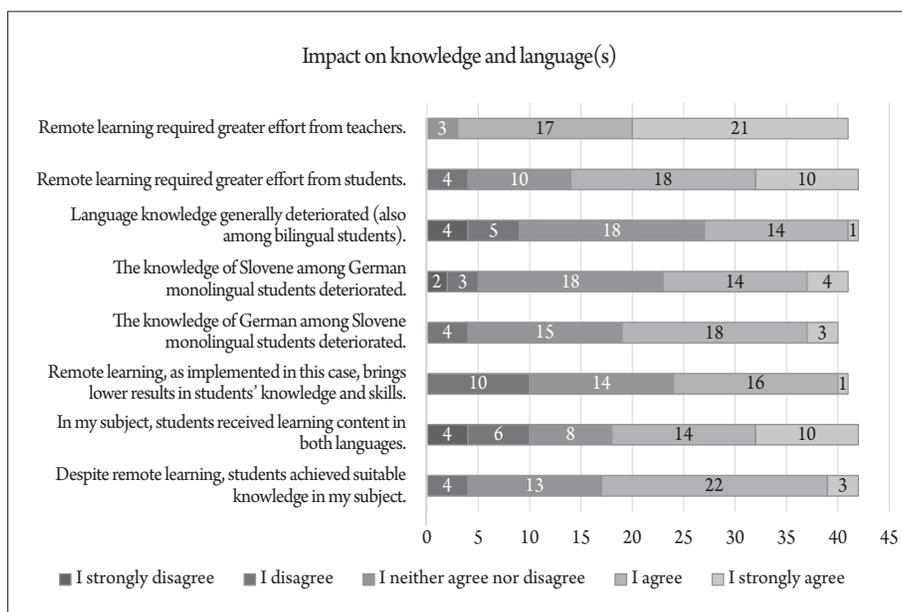
4.3 Impact of Remote Learning on the Quality of Knowledge of the Learning Content and the Language(s) of Instruction

Chart 4 presents the results of the answers to the question about the impact of remote learning on the quality of knowledge of the learning content and language(s).

The majority of the teachers agree (52.5 %) or even strongly agree (7 %) that students achieved suitable knowledge in their subject despite remote lear-

ning, just under a third are undecided (31 %), while 9.5 % disagree. The teachers' answers do not depend on the subject taught, length of service, or self-assessed bilingualism balance, but there is statistical significance indicated in the answers to the question of consistent use of language during remote learning. Teachers who did not consistently adhere to the language rules (i.e. the use of exclusively Slovene in *Gimnazija* or the language of the month in both vocational schools) to a lesser extent agree with the statement that students acquired suitable knowledge in their subject. The interpretation of the result is probably multifaceted and would require further in-depth interviews.

Chart 4: Impact on knowledge of the learning content and language(s)



Source: survey.

The majority of teachers (57.5 %) agree (35 % agree, 22.5 % strongly agree) that in their subject students received material in both languages. Methodologically speaking, this is a rather controversial question, because in the *Gimnazija* Slovene is the exclusive language of instruction. However, taking into account only the answers from TAK and VŠGP teachers, 65 % are convinced that the learning content was equally explained in both languages. Another problem is language teachers, who find this question more difficult to answer. The interpretation of the result is probably multifaceted and would require further in-depth interviews.

As already mentioned, the teachers' answers about students receiving a sufficient amount of learning content in both languages present a statistically si-

gnificant difference compared to the answers about language (non)accommodation. Teachers who accommodated more in the choice of language during the pandemic were, on average, more in agreement with the above statement ($p = 0.046$). Conversely, teachers who never accommodate were, on average, less in agreement with the statement that students received sufficient learning content in both languages in their subject. The answers are statistically insignificant by subject and self-assessed bilingualism balance.

Regarding the statement that remote learning – in the form as it took place in the spring, i.e. in the first wave – brings poorer results in students' knowledge and skills, the teachers' opinions vary. A share of 42.5 % agree (2.5 % strongly agree), 35 % are undecided, and only 20 % disagree.

Teachers who agree to a greater extent are also more convinced that certain changes (e.g. language assistants, more AV material, better technical equipment, see 4.3) would be in vain and disagree with such a form of schooling. This is a personality trait of individual teachers since data are independent of the length of service, school, and self-assessed bilingualism balance. At the same time, teachers who do not advocate remote learning are less convinced that students received suitable knowledge in their subject ($p = 0.002$). On the contrary, teachers who do not believe that remote learning brings poorer results believe to a greater extent that students received suitable knowledge in their subject.

Half of the teachers agree (7.5 % strongly agree, 42.5 % agree) that the knowledge of German among monolingual Slovene students deteriorated, 35 % are undecided in such regard, and 10 % disagree. The statement that the knowledge of Slovene among German monolingual students deteriorated is supported by a total of 42 % of teachers (10 % strongly agree, 32.5 % agree), 42.5 % are undecided, while 7.5 % disagree.

It is statistically significant that teachers who agree with the statement that the knowledge of German among Slovene monolingual students deteriorated also largely agree with the statement that the knowledge of Slovene among German monolingual students deteriorated ($p = 0.000$). Given that the result is independent of the subject and self-assessed bilingualism balance of teachers, it can be assumed that this is a subjective characteristic of individual teachers who highly value language skills.

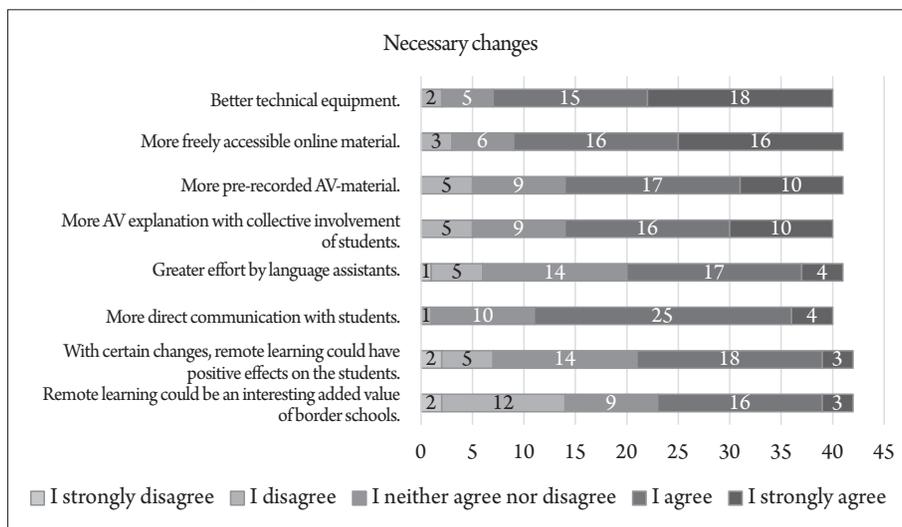
Regarding deterioration of language knowledge among bilingual students, only 32.5 % of the teachers agree with the statement (2.5 % strongly agree, 30 % agree), 45 % are undecided, and a total of 22.5 % disagree (12.5 % disagree, 10 % strongly disagree). Probably, the undecided also include teachers who find that the differences between individual students are such that for some the statement is true, while for others it is not, which was also included in the comment by one of the respondents: "I am often undecided in my answers because I can agree with the statement for some students, and at the same time disagree for other students. Thus, I could not decide." (Survey 3/43).

More than two-thirds of teachers agree (25 % strongly agree, 42.5 % agree), a quarter is undecided and only 7.5 % disagree with the statement that remote learning required much more student effort. However, almost all teachers are convinced that remote learning required much more effort from the teachers (50 % strongly agree, 40 % agree, and only 7.5 % neither agree nor disagree).

4.4 Changes to be Implemented to Ensure Better Functioning and Effect of Remote Learning

Chart 5 presents the teachers' opinions on the necessary changes for better functioning and effect of remote learning.

Chart 5: Necessary changes



Source: survey.

Just under a half of the teachers are convinced that with certain changes, remote learning could have positive effects on students (7.5 % strongly agree, 40 % agree), a third (35 %) are undecided, and just under a fifth disagree (12.5 % disagree, 5 % strongly disagree).

Just under half of the teachers agree (7.5 % strongly agree, 37.5 % agree) that remote learning could be an interesting added value for schools in the cross-border area, whereby students could complete part of their school obligations from home; about a fifth (22.5 %) are undecided, and a good third disagree (27.5 % disagree, 5 % strongly disagree).

The vast majority of teachers agree (10 % strongly agree, 62.5 % agree) that more direct communication with students is necessary, a good fifth is undecided and only 2.5 % disagree.

This statement is largely agreed with by the teachers who also agree with the statement that greater effort was needed from both teachers and students. At the same time, teachers who largely agree with the statement that more direct communication is needed to a lesser extent agree with the statement that the knowledge of Slovene among German-speaking students deteriorated ($p = 0.015$), while for Slovene monolingual students they largely agree that their knowledge of German deteriorated (but these results are not statistically significant). The latter can also be explained by the fact that these teachers, on average, more often accommodate the students in the choice of language ($p = 0.006$) and during the pandemic they accommodated them even more ($p = 0.034$) and communicated to a greater extent in German.

Just over half of teachers (52.5 %) agree that more effort from language assistants is needed, a third is undecided (32.5 %), a tenth disagrees, and 2.5 % strongly disagree. A statistically significant difference in responses is observed in the agreement that much more effort from students was needed. This is much more strongly agreed with by teachers who are more convinced that greater effort from language assistants is necessary ($p = 0.073$). They think this fell solely on students' shoulders. As a rule, language assistants are staff whose role differs significantly from that of a subject teacher. Language assistants help with language subjects. The purpose of the question was to perceive the potential effectiveness of assistants in other subjects, which is something that should be considered in the future (along with greater knowledge transfer and occasional integration of subjects).

The majority (60 %) agree that more AV explanation is needed with group participation of students (25 % strongly agree, 35 % agree), a good fifth is undecided (22.5 %) and only 12.5 % disagree. Even more (64.5 %) teachers believe that more pre-recorded AV material is needed (22.5 % strongly agree, 42.5 % agree), a fifth are undecided, and only 12.5 % disagree. Even more (75 %) are in favour of the possibility of freely available online material (37.5 % strongly agree, 37.5 % agree), 15 % are undecided, and only 7.5 % disagree.

Teachers who largely agree that more AV explanation is needed with group participation of students also agree that more pre-recorded AV material is needed ($p = 0.000$). Teachers who largely agree that more pre-recorded AV material is needed also, on average, largely agree that more free online material is needed ($p = 0.000$). All the answers are related to the smaller involvement of teachers in their own production of AV material.

The vast majority (77.5 %) of teachers believe that better implementation of remote learning would require better technical equipment (40 % strongly agree, 37.5 % agree), 12.5 % are undecided, and only 5 % disagree. Teachers who believe that better equipment is needed for better remote learning on average provided fewer AV explanations. The data are not statistically relevant, but they are still significant although they do not answer the question of whether the reason

for not holding AV conferences was actually the (lack of) technical equipment of teachers or just an excuse for not doing so. The non-provision of AV explanation can also be related to the fact that teachers who believe that better technical equipment is needed also largely agree with the statement that there should be more pre-recorded material ($p = 0.043$) and more material freely available online ($p = 0.000$).

4.5 Additional Analysis by Bilingualism Balance, School, and Subject

The analysis of differences in teachers' answers in terms of bilingualism balance, subject taught, and especially school is intended primarily for the public interested in the specific topic and familiar with the situation in minority education in Austrian Carinthia.

The analysis of differences in teachers' answers **by self-assessed bilingualism balance** (bilingual with better knowledge of Slovene ($N = 9$), better knowledge of German ($N = 13$), balanced bilingual ($N = 20$)) shows the following:

- Language accommodation is, on average, more common in balanced bilingual teachers and even more common in bilinguals with better knowledge of German (see above).
- Teachers who are stronger in Slovene believe that, on average, there was greater deterioration in the knowledge of Slovene among German monolingual students (22 % agree, 33 % strongly agree). Conversely, teachers who are stronger in German on average believe that there was greater deterioration in the knowledge of German among Slovene monolingual students (69 % agree, 8 % strongly agree). As regards balanced bilingual teachers, this difference is not perceived to such an extent (they neither agree nor disagree in 56 % and 53 %, respectively), but they are slightly more critical of the general language skills of bilingual students (25 % agree, 5 % strongly agree).
- The differences partly stem from the subject they teach, as it is statistically more typical for bilinguals with a better command of Slovene to teach language (67 %), to teach at the *Gimnazija* (56 %), and to have a shorter length of service (78 % between 2 and 5 years). On the other hand, bilinguals who are stronger in German are more likely to teach a vocational subject (64 %), work in one of the vocational schools (45 %), and have on average a longer length of service (54 % over 10 years). Balanced bilinguals also have a longer length of service (70 % over 10 years), more often teach a vocational subject (55 %), and work at the TAK (63 %).

The analysis of teachers' answers **by school** (*Gimnazija* $N=16$, TAK $N=20$, VŠGP $N=13$) reveals the following:

- Lack of learning material in Slovene. The largest share of teachers who passed out assignments on self-prepared worksheets worked at the *Gimnazija*

(always 40 %, often 33 %) and VŠGP (always 31 %, often 62 %). This is due to a larger number of students from Slovenia (the highest share of students from Slovenia is at the VŠGP) and specific learning contents, as teachers at this school also taught the learning content with the help of worksheets prepared by themselves (always 38 %, often 54 %), while the other two schools did not lag far behind (*Gimnazija*: 38 % always, 44 % often; TAK: 15 % always, 60 % often).

- Use of worksheets. Higher use of worksheets at the VŠGP is reflected in the much lower use of AV material, which is the lowest at this school (never 38 %, seldom 8 %, occasionally 38 %) and was also rather low at the *Gimnazija* (never 25 %, seldom 31 %, occasionally 13 %, often 19 %, always 13 %), while the result is slightly better at the TAK (25 % never, 10 % seldom, 25 % occasionally, 25 % often, 15 % always).
- Manner of communication. The above results also reflect whether the communication was written or verbal: at the *Gimnazija*, 56 % of communication was always written, 27 % never verbal; similarly, at the VŠGP, 46 % of communication was always written, 15 % never verbal, while at the TAK, the share of teachers who communicated only in writing decreases significantly (always written 25 %), while the share of teachers who never communicated verbally remains approximately the same as in both other schools (never 15 %).
- Use of Slovene and German. In accordance with the method of implementation (the language of instruction at the *Gimnazija* is only Slovene, while in both vocational schools the two languages alternate monthly), the teachers who mainly communicated in Slovene are those from the *Gimnazija* (always 75 %, often 19 %), followed by the VŠGP which has the largest share of students from Slovenia (always 25 %, often 50 %), and the TAK (which still communicated in Slovene quite often due to many students from Slovenia: always 21 %, often 42 %). A positive fact is that there was no teacher at any of the three schools who used Slovene rarely or never. German was used more by teachers at both vocational schools, where it is also used as a monthly language of instruction. On average, it was used more by teachers at the VŠGP (8 % always, 42 % often) than at the TAK (always 5 %, often 21 %), while at the *Gimnazija* it was used always by 13 % of the teachers (2 teachers), often by no one, and never by 50 %. Further analysis showed that the above two teachers are *Gimnazija* teachers (one also teaches at the TAK) who declare themselves to be balanced bilinguals, but in their communication, they fully accommodate the students and are also convinced that this is in their best interest.
- Language accommodation. Teachers mostly accommodate the students in the choice of language (even when there is no pandemic) at the VŠGP (always 8 %, often 42 %, occasionally 33 %, seldom 17 %, never 0 %) where the need seems greatest considering that the answers are quite homogeneous

(standard deviation (SD) 0.9), slightly less at the TAK (always 16 %, often 26 %, occasionally 26 %, seldom 16 %, never 16 %, SD 1.33), and the least at Gimnazija (always 19 %, often 19 %, occasionally 13 %, rarely 13 %, never 38 %, SD 1.62). The dispersion of answers in the last two schools is considerable, pointing to personality differences among teachers rather than to the need for better communication. Also, the level of agreement with the statement that teachers accommodated the students more during remote learning expresses the needs arising from the specifics of individual schools. On average, agreement was higher among VŠGP teachers (50 % agree) than at the other two schools (Gimnazija: 13 % strongly agree, 13 % agree; TAK: 5 % strongly agree, 21 % agree), although the results regarding the consistent use of the language of the month indicate greater language accommodation at the TAK (During remote learning, I consistently used the language of instruction of the month: at the VŠGP: 17 % strongly agree, 83 % agree, SD 0.39; at the TAK: 4 % strongly agree, 21 % agree, 32 % neither agree nor disagree, 16 % disagree, 0 % strongly disagree, SD 1.02). At the *Gimnazija*, the share of teachers who strongly agreed on the consistent use of Slovene was the highest (50 %), but all other answers were rather dispersed (SD 1.09). The analysis of differences among schools concerning teachers' agreement with the statement that it is best for students if teachers fully accommodate them and communicate in the language in which students are strongest showed that the largest share of teachers who strongly disagree with this statement is at the *Gimnazija* (63 %), but dispersion in other categories of answers is extremely high (13 % disagree, 6 % neither agree nor disagree, 13 % agree, 6 % strongly agree, SD 1.36). At the TAK, the data also vary, although a little less (26 % strongly disagree, 47 % disagree, 16 % neither agree nor disagree, 5 % agree, 5 % strongly agree, SD 1.07), while the teachers at the VŠGP are more unanimously convinced that accommodation is not good (33 % strongly disagree, 33 % disagree, 33 % neither agree nor disagree, 0 % agree, 0 % strongly agree, SD 0.85). The data reveal differing opinions of teachers regarding language accommodation and language choice even in an environment where such possibility does not exist (Slovene is the only language of instruction at the *Gimnazija*). A comparison of data even shows that *Gimnazija* teachers agree with this statement even more than teachers who use both languages in the learning process (and should consistently adhere to the use of the one or the other language according to the month of use). The reason for such a difference in teachers' opinions should be a matter of further research.

- Impact on the quality of knowledge and language. The statement that despite remote learning students achieved suitable knowledge in a particular subject is mostly true for the teachers at the VŠGP (15 % strongly agree, 54 % agree, SD 1.04;) and *Gimnazija* (6 % strongly agree, 56 % agree, SD

0.72) and much less for the teachers at the TAK (10 % strongly agree, 35 % agree, 50 % neither agree nor disagree, SD 0.76). Also the agreement with the statement that students received the material in both languages is higher at the VŠGP (38 % strongly agree, 38 % agree, SD 1.08) than at the TAK (20 % strongly agree, 35 % agree, SD 1.15). Regarding the deterioration of language knowledge, the differences are as follows: VŠGP teachers are the least convinced while TAK teachers are the most convinced that language knowledge among monolingual students did not deteriorate. The share of teachers convinced that the knowledge of German among Slovene monolingual students deteriorated is 45 % at the VŠGP (9 % strongly agree, 36 % agree, SD 0.82) and 53 % at the TAK (11 % strongly agree, 42 % agree, SD 0.77). It is the same with the deterioration of the knowledge of Slovene among German monolingual students: this belief is shared by 33 % of teachers at the VŠGP (0 % strongly agree, 33 % agree, SD 0.9) and 37 % at the TAK (11 % strongly agree, 26 % agree, SD 0.95), while the largest share of teachers who are convinced of the deterioration of knowledge of monolingual German-speaking students works at the *Gimnazija*, where agreement was expressed by 63 % of the teachers (25 % strongly agree, 38 % agree, SD 1.06). The results prove that monolingual students were severely disadvantaged due to absence from school and consequently lower input of Slovene and German. More attention should be paid thereto, especially if remote learning becomes a recurrent practice in the future, as it would mean less possibility of progress for students from Slovenia who, after all, account for a significant share of students in both vocational schools.

- The effort by teachers and students. Teachers are on average quite convinced that remote learning required additional effort both on their part and on the part of students. Most teachers who believe that greater effort was required from the students come from the VŠGP (54 % strongly agree, 46 % agree, SD 0.52), followed by *Gimnazija* teachers (44 % strongly agree, 31 % agree, SD 0.77), while such statement is less true for teachers at the TAK (25 % strongly agree, 35 % agree, SD 0.97). However, teachers are more unanimous about their own additional effort, especially at the VŠGP (54 % strongly agree, 46 % agree, SD 0.52), as well as at the *Gimnazija* (40 % strongly agree, 60 % agree, SD 0.51) and the TAK (55 % strongly agree, 30 % agree, SD 0.75).
- Teachers have very different opinions on the fact that remote learning could be an interesting added value for schools in the border area, with the highest shares recorded among TAK teachers (10 % strongly agree, 50 % agree, SD 1.05; VŠGP: 0 % strongly agree, 54 % agree, SD 0.93; *Gimnazija*: 13 % strongly agree, 38 % agree, SD 1.18).
- Changes to be implemented for better functioning and effect of remote learning. In general, it has been found that teachers are convinced that more direct communication would be needed. Differences among schools are

reflected in the need for greater commitment (or greater number?) of language assistants: they are most convinced thereof at the *Gimnazija* (19 % strongly agree, 44 % agree, SD. 0.86) and the TAK (15 % strongly agree, 45 % agree, SD. 0.99), while teachers at the VŠGP do not see this as a particular problem (0 % strongly agree, 38 % agree, SD 0.95). The ratio among schools is similar concerning the statement that more AV explanation with group participation of students, more pre-recorded material, and more freely available online material are needed. Such need was mainly expressed by VŠGP and *Gimnazija* teachers, and a little less by TAK teachers. In particular, it is necessary to mention the desire/need for better technical equipment for teachers in all schools, especially in the *Gimnazija* (56 % strongly agree, 38 % agree, SD 0.63; VŠGP: 42 % strongly agree, 42 % agree, SD 0.75; TAK: 40 % strongly agree, 40 % agree, SD 0.97).

- Teachers' profile by school. Among the teachers who completed the survey, some work in two, one even in all three schools. Given the fact that the *Gimnazija* and the TAK operate in the same building, there is a greater synergy between them – thus, half of the *Gimnazija* teachers also work at the TAK (8/16), while TAK teachers also work at the *Gimnazija* (40 % or 8/20) and VŠGP (10 % or 2/20). Among the teachers from VŠGP, only one (/13 or 8%) also works at the *Gimnazija* and two (15 %) at the TAK. VŠGP is about 30 kilometres away from the other two schools.
- Regarding the length of service, most teachers have a long length of service (over 10 years: TAK 55 %, VŠGP 46 %, *Gimnazija* 38 %) and the least teachers have the shortest length of service (less than 2 years: TAK 5 %, *Gimnazija* 6 %, VŠGP 15 %), followed by a short length of service (2–5 years) due to an obvious rejuvenation of staff at the *Gimnazija* and the TAK (TAK 40 %, *Gimnazija* 44 %, VŠGP 15 %), and medium length of service (TAK 0 %, *Gimnazija* 13 %, VŠGP 23 %).
- Regarding self-assessed bilingualism balance among teachers, there are differences among schools confirming the results by learning content and language of instruction. In all schools, most teachers define themselves as balanced bilinguals (*Gimnazija* 63 %, TAK 60 %, VŠGP 46 %). Most bilinguals with better knowledge of Slovene teach at the *Gimnazija* (*Gimnazija* 31 %, TAK 15 %, VŠGP 15 %) and most bilinguals with better knowledge of German teach at the two vocational schools, especially VŠGP (28 %, TAK 25 %, *Gimnazija* 6 %).

The analysis of the responses of teachers who **teach a language subject** (N = 17, they are also teachers of other foreign languages, and about a fifth teach another general or vocational subject in addition to language) showed the following:

- Concern that explanation in a language subject was never (35 %), seldom (24 %) or occasionally (24 %) supported by AV conference or pre-recor-

- ded material. The explanation was supported by learning content available in textbooks (47 % often, 12 % always) or worksheets prepared by the teachers themselves (59 % often, 35 % always, SD 0.59). The outcome is similar in relation to passing out assignments: most teachers used the material available in textbooks and online (47 % often, 18 % always) as well as worksheets prepared by the teachers themselves (65 % often, 29 % always, SD 0.56)
- Communication largely took place in writing (47 % often, 47 % always, SD 0.62) and less verbally (24 % never, 24 % seldom, SD 1.18). However, Slovene was more present in communication (38 % occasionally, 31 % often, 31 % always) than German (19 % never, 38 % seldom, 25 % occasionally, 19 % often), which is probably the reason why teachers see a greater deterioration in German among Slovene monolingual students (they are slightly less convinced of deterioration of Slovene among German monolingual students, see below).
 - Language accommodation to students (even outside the epidemic) shows an extraordinary dispersion of answers (SD 1.33), which partly indicates psychological differences between teachers, and partly the need for accommodation reflected in communication with students. Namely, language teachers are on average less convinced that language accommodation and the use of a language in which students are stronger is good for students (44 % strongly disagree, 38 % disagree, SD 0.91), which is in line with their concern for greater linguistic involvement and mental effort of students. The latter is also reflected in the fact that, compared to other teachers, they on average agree less with the statement that they accommodated the students more during the pandemic (19 % strongly disagree, 13 % disagree, 44 % neither agree nor disagree, SD 1.06).
 - The impact of remote learning on the quality of knowledge of learning content and languages of instruction. Most language teachers believe that students achieved suitable knowledge in their subject despite remote learning (53 % agree, 6 % strongly agree), yet almost half of them (47 %) believe that remote learning brings lower results in student knowledge and skills. Regarding language knowledge, they are mostly convinced of the deterioration of German among Slovene monolingual students (40 % neither agree nor disagree, 47 % agree, 7 % strongly agree, SD 0.74), slightly less of the deterioration of Slovene among German monolingual students, where they are also less unanimous (6 % strongly disagree, 13 % disagree, 38 % neither agree nor disagree, 31 % agree, 13 % strongly agree, SD 1.08), and even fewer agree with the statement that language knowledge also deteriorated among bilingual students (12 % strongly disagree, 18 % disagree, 35 % neither agree nor disagree, 35 % agree, 0 % strongly agree, SD 1.03).
 - Additional effort because of remote learning. The necessity of additional effort from students and teachers is emphasised mainly by teachers of gene-

ral subjects (greater effort by students: 25 % agree, 50 % strongly agree, SD 0.87; greater effort by teachers: 42 % agree, 58 % strongly agree, SD 0.51), followed by language teachers (greater effort by students: 59 % agree, 18 % strongly agree, SD 0.88; greater effort by teachers: 35 % agree, 53 % strongly agree, SD 0.71) and less by teachers of vocational subjects (greater effort by students: 35 % agree, 15 % strongly agree, SD 0.89; greater effort by teachers: 53 % agree, 42 % strongly agree, SD 0.60).

- Share of language teachers by school: 38 % *Gimnazija*, 56 % TAK, 31 % VŠGP.
- Share of language teachers by length of service: 59 % short length of service (2–5 years), 12 % 5–10 years, and 29 % over 10 years. Interestingly, however, their youth did not encourage them to use the modern methods of AV teaching.

5. Data Interpretation and Discussion

The results of the survey confirmed the prevalence of reading and writing communication between professors and students. The absence of verbal communication in remote learning during the first wave of the epidemic and the subsequent summer holidays must have had an impact on the language skills of students attending the schools in question in Austrian Carinthia. The use of languages in the communication between teachers and students shows that Slovene was more present than German, which is in line with the fact that Slovene is the only language of instruction and the predominant language of communication between students and professors at the *Gimnazija*. The presence of Slovene in communication with students greatly influences the teachers' opinion about the deterioration of language knowledge among students. Teachers confirmed that language knowledge deteriorated the most among students with an unbalanced competence in the languages of instruction, especially in Slovene monolingual students, i.e. students from Slovenia, who were mostly affected by lower language input of German as they remained in a completely Slovene environment and Slovene was predominant also in school communication. We assume that the latter is also the reason why teachers see less deterioration in the knowledge of Slovene among German monolingual students. In general, the least deterioration in language knowledge was observed among bilingual students. Half of the teachers agree that Slovene monolingual students deteriorated in the knowledge of German and a few less believe that German monolingual students deteriorated in the knowledge of Slovene. As those teachers who largely agree with the first statement also largely agree with the second statement, it can be concluded that this is a subjective characteristic of individual teachers who highly value language skills. Regarding the deterioration of language knowledge among bilingual students, only a third of the teachers agree. The answers of the undeci-

ded probably also comprise the answers of those who see such great differences between individual students that for some they can claim that the statement is true, while for others, the statement is not true. One needs to keep in mind that teachers also perceive great differences in language skills and attitudes towards this issue among students.

During the first wave, only a good quarter of the teachers used AV technology to explain the learning content, mainly teachers with shorter length of service (we assume that they were also younger) and better knowledge of German. We believe this is also related to the fact that teachers indicate better technical equipment as a necessary change for better teaching. It is up to the schools to assess to what extent such need refers to technical issues (equipment and good internet connection) and to what extent it also refers to the technical or digital literacy of the teachers. The data may indicate a problem of weak Internet accessibility of students (and teachers) from the border areas in Slovenia, which during remote learning proved to be a major problem also in Slovenia (cf. Polanc 2020).

The data show that teachers accommodate the students in the choice of language. Under normal circumstances, 71.42 % of teachers accommodate their communication to a certain extent (always, often, occasionally). If these data are compared with teachers' answers on the extent to which full accommodation in the use of the language in which students are strongest is good, it is obvious that language accommodation in the schools in question is necessary for (fast and effective) communication. The analysis of language accommodation by subject, school, length of service, and self-assessed bilingualism balance shows that bilingual professors who are stronger in Slovene (and also speak more Slovene) accommodate less. This is also indicated and confirmed by the fact that these teachers highly agree with the statement that the knowledge of Slovene among German-speaking students deteriorated. Teachers of non-language subjects, teachers with shorter length of service and those with a better knowledge of German are more accommodating, but the data are not statistically significant. However, it is statistically significant that teachers who normally accommodate and those who believe that students need to be accommodated with the choice of their strongest language accommodated even more during remote learning. These teachers are also most convinced that despite remote learning, students achieved a suitable knowledge of their subject. We assume that is because they put content knowledge before language knowledge. At the same time, on average, they agree less with the statement that the knowledge of Slovene among German-speaking students deteriorated, which may indicate a different subjective evaluation of the students' knowledge of Slovene among teachers. They also express self-confidence about remote learning by agreeing with the statement that remote learning would be an interesting market niche for cross-border schools. The latter reflects the active responses of teachers to the new situation as well as the different attitudes of the teachers towards language accommodation

(which is tied to personal opinions about the importance of language as well as to individual personality traits). Identifying the differences between teachers is certainly an important research question for future studies.

Most teachers agree that students achieved suitable knowledge in their subject. Regarding the statement that remote learning, in the form as it took place in the spring, i.e. in the first wave of the pandemic, brings poorer results in students' knowledge and skills, the teachers' answers are diverse. Teachers who agree to a greater extent are also more convinced that changes (e.g. language assistants, more AV material, better technical equipment) would be in vain and are generally opposed to such a form of schooling. At the same time, teachers who do not support remote learning are less convinced that students received suitable knowledge in their subject, while teachers who do not believe in poorer results in remote learning are more likely to believe that students received suitable knowledge of the learning content in their subject. More than two-thirds of teachers agree that remote learning required greater effort from students, and almost all believe that remote learning required greater effort from teachers. Just under a half are convinced that with some changes, remote learning might even have positive effects on students. Approximately as many also agree that remote learning could be an interesting added value of schools in the cross-border area, whereby students could complete part of their school obligations from home. However, certain changes would be needed in such regard: the vast majority of teachers agree that more direct communication with students would be needed. A good half of them agree that greater involvement of language assistants would be necessary. Most also agree that more AV explanation with group participation of students is needed, two-thirds of the teachers think that more pre-recorded AV material is needed, and they are very much in favour of the possibility of freely available online material. All these answers are related to teachers' involvement in the production of AV material, which was insufficient. Although the vast majority of teachers believe that better remote learning would require better technical equipment and, on average, resorted less to direct AV explanation, this data does not yet answer the question of whether the reason for not conducting AV conferences was actually (lack of) technical equipping of the teachers or was it just an excuse for not doing so.

To illustrate the situation, below are some thoughts posted by the students on the VŠGP blog (HLW / VŠ St. Peter 2020), clearly showing that students experienced the lockdown and remote learning in very different ways. Some considered it (extremely) stressful (one student even mentions depression), while others managed the situation perfectly. First of all, they highlight the establishment of a work routine: production of a daily schedule to complete the assignments in various subjects within the deadlines set and regular everyday school work. For most students, remote learning took place in the mornings and occasionally, in case of numerous assignments (at the beginning of lockdown), also on

a few afternoons. However, they all say to prefer in-person classes, being easier for them especially when learning new topics. The posts reveal that most assignments were passed out by e-mail, e.g.: “My daily routine includes 2–3 hours of writing texts or filling out worksheets for various subjects” (HLW / VŠ St. Peter 2020). Conference applications were intended for socialising within the class, e.g. class meetings. Some students also mention overload with chores assigned to them by their parents and the lack of tranquillity due to the presence of other family members (especially siblings). While most emphasised that an advantage of lockdown was the possibility of spending more time with the family and at home in Slovenia, some students stated that Austria had become their second home (e.g.: “To be fair, I would rather be quarantined there, just so I can spend time with my friends” (HLW / VŠ St. Peter 2020)).

Data that shed light on the situation at the TAK were obtained also based on an internal school survey involving about two-thirds of their students, more precisely 145. Starting from students’ statements indicating overload with assignments, inconsistency of timetable, and lack of coordination among teachers, the following can also be highlighted: (1) wish for more (video) communication, which leads to the conclusion that some students miss verbal practice. Especially monolingual students miss practice in the language in which they are weaker (apparently also out of a desire to practice for the matura exam), while many also mention specific subjects that they find impossible to process without a verbal explanation. (2) Technical problems are mentioned by a few, all in Slovene language, presumably students from Slovenia.³ The technical capacities (computer capacity and data transfer) should be checked. Probably the number of students who would need additional equipment is greater than the two students who applied for a laptop at the TAK and the two at the VŠGP (for work and remote learning, a family of four would ideally need four computer sets, high-speed internet, and (in case of remote learning mostly taking place based on worksheets) huge amounts of cartridge). (3) Most students, of course, miss their friends, but it is also obvious that some students find this way of schooling suitable.

6. Conclusion

Well-prepared and well-established remote learning can give satisfactory results, but the rapid introduction of remote learning during the first wave of the Covid-19 pandemic did not allow such. The results of the survey confirm the prevalence of reading and writing communication between teachers and students. The absence of verbal communication during remote learning and the subsequent summer holidays must have had an impact on the language skills of students attending the schools in question in Carinthia, Austria. During the first wave of the pandemic, just above a quarter of teachers used audio-video technology in their lessons, mainly teachers with a shorter length of service (we assume that

they were also younger) and better knowledge of German. We believe that this is also related to the fact that teachers indicate better technical equipment as a necessary change for better teaching. It is up to the schools to evaluate to what extent such need refers only to technical aspects (equipment and good internet connection) and to what extent it relates to the technical or digital literacy of teachers. Teachers confirmed that the language knowledge deteriorated the most among students with a strongly unbalanced competence in both languages of instruction, where the lack of language input of the weaker language that would otherwise be obtained in the school and extracurricular environment is the greatest. Although, according to teachers, deterioration was highest among students from Slovenia, slightly less among monolingual students from Austria and the least among bilingual students, it can be concluded that the loss was inevitable in all three groups of students. Research carried out under normal circumstances demonstrates that language skills deteriorate for various reasons of lower language input.

The data also reveal that teachers accommodate students in the choice of language. Under normal circumstances, 71.42 % of teachers adapt communication to a certain extent (always, often, occasionally). If we compare this data with teachers' agreement on how beneficial is full accommodation in the use of the language in which students are strongest, it is obvious that language accommodation in the schools in question is necessary for (fast and effective) communication. Teachers who normally accommodate and those who believe that students need to be accommodated with the choice of their strongest language accommodated even more during remote learning.

Just under half of the teachers are convinced that with some changes, remote learning might have positive effects on students. Changes would indeed be necessary in such regard: the vast majority of teachers agree that more direct communication with students is necessary, as well as greater involvement of language assistants, more AV explanation with group participation of students, and more pre-recorded AV material. They are also all very much in favour of the possibility of freely available online material.

Pending another school closure as a result of the next Covid-19 waves and inevitable epidemics in the future, schools must provide technical equipment and digital literacy for their teachers to enable them to teach without difficulty using audio-video conferencing systems, and give students the possibility of active verbal communication. In particular, it would be necessary to provide accessible audio-video material in Slovene, which is not automatically available online, which means that its production requires a lot of additional effort from the teachers. Providing learning material in Slovene has been a challenge for the teachers even before the epidemic.

For the time being, it is impossible to assess the outcome of the changed behaviour and functioning of society due to Covid-19, but upon introduction

of the above improvements, remote learning could turn into an interesting alternative for schools in the future, at least for a part of the learning content. For schools from cross-border areas, this would probably be a very interesting and effective alternative, especially for daily migrant students.

In any case, the current year poses new challenges and encourages us to find new and, above all, satisfactory and inclusive solutions for the whole society. Education is an important factor in reducing inequalities in society. As long as remote learning increases inequality, however, this form of education should be pursued with some reservations.

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Notes

- ¹ 16 teachers from *Gimnazija* (out of just over 50), 20 from TAK (out of 30), and 13 from VŠGP (out of 25). In our opinion, the share of committed teachers also shows differences in support and commitment to the issue provided by the school management.
- ² The charts for subsequent analyses are available from the author.
- ³ The students themselves chose the language in which they would respond. The survey also confirmed the language accommodation of students (based on their knowledge and anticipation of the interlocutor's knowledge (cf. Zorčič 2020)). It is interesting that in the same school, students participating in the survey, when addressed by a person from Slovenia, mostly chose a Slovene survey (and responded in Slovene) (Zorčič 2020), while in the school survey students used German more (42 students, 29 %), although most of them still chose Slovene (94 students, 65 %). Both data confirm the method of language selection in bilingual communication in Austrian Carinthia: Slovene is chosen when communicating with someone from Slovenia, while when communicating with someone from Austria, students accommodate according to their language skills and (known) language skills of the interlocutor (Zorčič 2020).

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