

Turkish teachers' autonomy in using and adapting curriculum: A mixed methods study

Meryem Tokgöz Can

Öğretmenevleri Primary School, Turkey

Nilay T. Bümen

Ege University, Turkey

Despite the increasing popularity of teacher autonomy studies, there is still a need to explore what kind of mechanism or context is created by autonomy in the background while teachers are using or adapting the curriculum. This study aims to investigate teachers' perceived autonomy at the classroom level as well as their preferences for curricular use and adaptations. Drawing on a sequential explanatory design, after analysing quantitative data from 422 teachers through the teacher autonomy scale - Turkish and the questionnaire of teachers' preferences for oppositional curricular solutions, interviews were conducted with a selected small group. Findings reveal that Turkish teachers think they have no say in the objectives-content of the curriculum and need more autonomy, despite high scores in instructional planning and implementation. Teachers ideally expect a curriculum to both present all the steps of teaching in detail and provide adaptation opportunities with flexibility. We reveal that no matter how centralised the country they live in, no matter how limited their autonomy, teachers make adaptations with the expectation of a flexible curriculum. Moreover, we found that there are links between teachers' autonomy scores and adaptation patterns. Teachers with low autonomy scores made adaptations for replacing/ revising rather than extending and omitting.

Introduction

In recent years, the reduction of teacher autonomy due to such factors as accountability policies, prescriptive curricula, oppressive regimes of testing, fast-track teacher preparations and privatisation has brought about a phenomenon called *de-professionalism of teachers* (Errs, 2018; Wronowski, 2020). However, teacher autonomy is seen as a determining feature of teacher professionalism in many studies (e.g. Paulsrud & Wermke, 2020). Yet, teachers' autonomy is quite low in Turkey (Çelik, Gümüş & Gür, 2017), despite the goals set for the development of policy documents (Canbolat, 2020). Besides, the performance expected from teachers and schools has increased, and there has been more pressure to increase Turkey's achievement in international exams (Gürten, Demirkaya & Doğan, 2019). In this context, the question arises as to how teachers in Turkey perceive their autonomy in teaching.

Jeong and Luscei (2018) revealed that while teacher responsibilities in many countries have been expanded beyond the classroom, this trend does not necessarily imply that teachers have become more empowered in the classroom. In many countries, teachers' work is increasingly guided by new frameworks and assessments that are created far away from schools. The need to investigate curricular preferences of teachers is linked to their documented dissatisfaction with the current curricular policy, particularly regarding the

contrast between centralisation and curricular policy decentralisation in many countries (Viirpalu, Krull & Mikser, 2014). This is especially true for countries like Turkey where curriculum development has increasingly been centralised for years. All contents and curricula determined by the Ministry of Education (MoNE) in Turkey give teachers a restricted voice (Canbolat, 2020).

While studies have examined teacher autonomy in instructional planning and implementation in Belgium (Vangrieken, Grosemans, Dochy & Kynndt, 2017), Estonia, Finland and Germany (Tuul, Mikser, Neudorf & Ugaste, 2015; Viirpalu et al., 2014), Sweden and Finland (Paulsrud & Wermke, 2019; Wermke & Höstfält, 2014), and Vietnam (Nguyen & Walkinshaw, 2018); in Turkey, teacher autonomy studies are mostly conducted from political and administrative aspects (i.e. Canbolat, 2020; Çolak & Altinkurt, 2017). In fact, teachers in countries with centralised education systems are really in need of adaptation since changes in the curriculum are less flexible (Yazıcılar & Bümen, 2019). Therefore, understanding the links between the weakening of autonomy and using curriculum can offer a new understanding to both theory and practice of teacher education. Besides, no study has been found concerning the links between teacher autonomy and the use and adaptation of curriculum in an international context. Although previous studies revealed the dimensions of teacher autonomy and related variables, there is still a gap as it has not yet been clarified what kind of mechanism or context is created by autonomy in the background while teachers are using or adapting the curriculum.

Even though perceptions of autonomy support provided by the principal are positively associated with teachers' adaptability (Burkhauser & Lesaux, 2017), not much is known about the mechanism between autonomy and curricular adaptations, especially in a centralised country. Based on this gap, the present study aims to make recommendations that would promote teacher autonomy for curriculum reforms. Data were collected in two phases with a mixed-methods sequential explanatory design seeking answers to the following questions: (1) What are teachers' perceptions of autonomy and preferences for oppositional curricular solutions? and (2) What are possible links between teachers' perceptions of autonomy and their use and adaptation of the curriculum? In light of these findings, curriculum scholars from different countries may develop a deeper and better understanding of how teachers' autonomy in using and adapting curriculum occurs in a specific culture.

Theoretical background

The concept of teacher autonomy

Studies on teacher autonomy offer numerous definitions of the concept, and it is difficult to reach a consensus because of its ambiguity (Dincer, 2019). Paulsrud and Wermke (2019) stated that teacher autonomy is a multi-dimensional and context-dependent phenomenon. Thus, the concept of teacher autonomy seems to have changed and developed considerably over the years (Jeong & Luschei, 2018). While the focus of the definitions offered by the literature was on individualism and independence (Pearson & Moomaw, 2005), it now shifted towards personal preferences and cooperative decision-making. The

earlier conception brought about isolation and alienation of teachers as a result of independence, whereas the more recent concept of teacher autonomy includes teachers' ability to make decisions in cooperation and freedom to make professional choices (Vangrieken et al., 2017).

To clarify the multi-dimensionality of teacher autonomy, Paulsrud and Wermke (2019) developed a two-dimensional matrix combining several conceptualisations. This analytical matrix contained educational, social, developmental, and administrative domains on the vertical dimension and classroom and school-related levels on the horizontal dimension. Accordingly, such actions like teachers' making their own decisions while performing their job, choosing their methodologies, selecting or designing their tasks and/or materials, assessing the results, cooperating with others to solve problems and undertaking their responsibilities (Ulaş & Aksu, 2015) are included in the educational domain of the analytical matrix. The developmental domain of the matrix includes the professional development of teachers, while the classroom level (horizontal dimension) emphasises the context of the individual teacher's scope of action within a classroom (Paulsrud & Wermke, 2019). Therefore, this study focuses on the educational and developmental dimensions of teacher autonomy at the classroom level rather than social and administrative dimensions at the school level.

Teachers' curriculum use and adaptations

Snyder, Bolin & Zumwalt (1992) categorised teachers' approaches to curriculum implementation as curriculum fidelity, enactment, and adaptation. Curriculum adaptation is the changes made by teachers in such points as the course structure, activities making up the course, or the aim of the course in the predetermined curriculum (Sherin & Drake, 2009). Teachers consider the local context and base their instruction on students' needs, resistance, learning objectives, prior knowledge, beliefs and orientations (Davis, Beyer, Forbes & Stevens, 2011; Gelmez Burakgazi, 2020), knowledge and orientations about the curriculum (Li & Harfitt, 2017); learning environment and related educational policies (Burkhauser & Lesaux, 2017), and pedagogical competence (Taylor, 2016).

Although adapting the curriculum to school, class, and students is a new concept in Turkey, curriculum adaptation patterns have already been determined (Burkhauser & Lesaux, 2017; Li & Harfitt, 2017; Remillard, 2005; Troyer, 2019; Yazıcılar & Bümen, 2019). Studies have shown that the specified patterns have common features but are named differently (modification, creating, adding, omitting, extending, revising or replacing, changing content, adjusting, reordering and rewording, etc.). It can be said that three main adaptation patterns come out as omitting, extending, and replacing or revising. In Table 4 of the findings, definitions of these patterns are presented.

National context of Turkey

According to the Global Education Monitoring Report Team (2017), Turkey is among the countries where teachers have the least say in deciding on the course content and their autonomy in this respect reduced gradually from 2006 to 2015. Similarly, a study

conducted by Yurdakul, Çelik, Gür and Kurt (2016) showed that 54% of the participating teachers think they are the passive practitioners of decisions made by the centre; while 53% consider that they do not influence shaping educational policies. Bümen (2019) stated that the profession of teaching is in the category of restricted institutional and service autonomy (Wermke & Höstfält, 2014) in Turkey and that teachers' autonomy is limited through product control. Recent studies found that teachers have less autonomy in terms of professional development (Çolak & Altinkurt, 2017; Dincer, 2019), teachers with relatively less experience adopt autonomy at a higher level (Canbolat, 2020), and leadership behaviours of school principals are significant predictors of teachers' general autonomy (Yazıcı & Akyol, 2017).

Method

Design and participants

This study adopts a sequential explanatory mixed-methods design (Creswell & Plano Clark, 2018). The two-phase model was adopted as it allowed the initial collection of quantitative data on autonomy and provided qualitative data detailing the individual experiences of a sub-sample, thus improving the investigation's breadth and depth (Table 1).

Table 1: The research methodology of the study

Phases	Research questions	Sampling	n	Data sources
Phase 1	1. What are teachers' perceptions of autonomy and preferences for oppositional curricular solutions?	Random	422	Teacher Autonomy Scale-Turkish; Questionnaire
Phase 2	2. What are possible links between teachers' perceptions of autonomy and their use and adaptation of the curriculum?	Criterion and maximum variation	10	Interviews

In the first phase of the study, (quantitative) data were collected from 429 randomly selected teachers from the central districts of Izmir. For the population of 21,867, the number to be sampled was determined as 377-379 (Krejcie & Morgan, 1970). Incomplete and inappropriately filled forms were removed and analyses were conducted on 422 teachers. Demographic information for the teachers participating in the first phase of the research is given in Appendix A.

In the second phase, a new study group was determined after data analysis (quantitative). According to the criterion sampling method (Creswell & Plano Clark, 2018) taken from the Teacher Autonomy Scale-Turkish, 10 teachers were selected from low, medium, and high scores. Moreover, participants were selected to differ by branch, gender, school level, and professional seniority to increase representation and support diversity (Table 2).

Table 2: Demographics of interviewed participants

Code	Autonomy level	Gender	Years of teaching	Subject	School type / level
T1	High	Male	2	English	Private/middle school
T2	High	Female	7	Classroom teacher	Public/primary school
T3	High	Female	8	English	Public/high school
T4	Medium	Female	6	Literature	Private /high school
T5	Medium	Female	5	Social sciences	Private/middle school
T6	Medium	Female	21	Science	Public/primary school
T7	Medium	Female	13	Classroom teacher	Public/primary school
T8	Low	Male	6	Mathematics	Public/middle school
T9	Low	Male	16	English	Public/high school
T10	Low	Female	8	Classroom teacher	Public/primary school

Data sources

Teacher Autonomy Scale-Turkish (TAST)

Teacher Autonomy Scale-Turkish (TAST), developed by Ulaç and Aksu (2015) and consisting of 18 five-point, Likert type items, was employed. The participants were expected to express their responses with one of the options from 0 = not at all to 4 = extremely. The scale has three independent subscales: (1) autonomy in instructional planning and implementation (APII); (2) autonomy in professional development (APD); and (3) autonomy in determining the framework of the curriculum (ADFC). APII consists of 11 items (e.g., I feel autonomous in identifying the criteria to evaluate student achievement), APD consists of four items (e.g., I feel autonomous to choose where the in-service teacher training programs will be held), and ADFC consists of three items (e.g., I feel autonomous to select the topics for the annual/daily plans) (Şahin İpek, 2017, p.36). Factor structures and psychometric properties of TAST are presented in Appendix B.

Questionnaire of teachers' preferences for oppositional curricular solutions

The study employed a questionnaire developed by Viirpalu et al., (2014) to look into the participants' preferences for oppositional curricular solutions and experiences. The questionnaire is based on oppositional opinions on the autonomy dilemmas teachers experience in their curricular decisions and the link between the centralised curriculum and teachers' lesson plans. Throughout the questionnaire, statements are given concerning the present state of the centralised curriculum at one end of the items while oppositional and alternative solutions are offered at the other end. Options are given as strongly agree, mostly agree, agree, and undecided, across both opposing statements. In the second part, four items in the questionnaire developed by Viirpalu et al., (2014) were included to receive the participants' opinions about curriculum components and their interaction with the centralised curriculum.

Viirpalu et al., (2014) were asked for permission to use the questionnaire items in the first place. The original questions in Estonian were translated into English and emailed by the author. Questions that are not appropriate for the education system in Turkey were excluded and the Turkish form of the questionnaire consisted of 17 items. Based on the

feedback from four professors in the field of curriculum and instruction, some changes were made in expression, marking style, and face validity on the form and it was tested for clarity through piloting on 15 teachers. In the first phase of the study, the questionnaire was applied to 422 teachers, and Cronbach's alpha was found as 0.75.

Interviews

Interview questions from Viirpalu et al. (2014), Tuul et al. (2015), and Yazıcılar and Bümen (2019) were referred to while preparing the questions to be used in interviews. Drafted questions were tested through two pilot interviews upon receiving the opinions of four experts. After the pilot interviews, the order of two questions was changed with no other change in the questions or their number (Appendix D).

Data collection

In the first phase of the study (March-April-May 2018), data were collected using the TAST and Questionnaire of Teachers' Preferences for Oppositional Curricular Solutions. In the second phase, individual face-to-face interviews were held with selected, volunteer teachers in June 2018. To determine the participants at this phase, it was stated in TAST that face-to-face interviews would be held with volunteer teachers later and they were asked to write their email address if they were volunteers. Personal information and scale scores of 19 teachers who wrote their contact information were examined, and interviews were held with those who accepted to interview ($n = 10$). Participants' opinions were taken about the time and place of the interviews to make them feel comfortable and all interviews were audio-recorded. The duration of the interviews varied between 19 and 23 minutes. The study was conducted in Turkish and that interview recordings selected as illustrative quotations were translated into English by the authors.

Data analysis

Frequencies, percentages, means, and standard deviations were calculated for quantitative data analysis. Percentages for both statements and opposing statements of items were determined by accumulating "agree", "mostly agree" and "strongly agree" percentages together in the questionnaire. As did Viirpalu et al., (2014), percentages of undecided were not included in findings (Table 3). As for the qualitative data analysis, the steps of preparation, data coding, attaining themes, data organisation, interpretation, and reporting (Patton, 2014) were followed. Accordingly, following the transcription, a list of codes and themes was developed based on the related literature for the adaptation patterns. Thus initial codes reflected the literature (Burkhauser & Lesaux, 2017; Bümen & Yazıcılar, 2020; Li & Harfitt, 2017; Troyer, 2019; Yazıcılar & Bümen, 2019) on curriculum adaptation patterns (e.g. omit, extend and replace). However, an open coding approach was used based on the data on other themes (i.e. use of text-books and different resources, teachers' autonomy in planning and implementation teaching, teacher needs and autonomy expectations). The general form of the draft list of codes and themes was obtained by adding the codes, concepts, and themes that emerged after iterative readings and piloting. In the next step, common points were found among the codes that were determined to have similar meanings, meaningful groups were set and themes were obtained considering

the principles of internal-external consistency (Creswell & Plano Clark, 2017). Quotes from interviews were transferred into the cell opposite the codes on a *Microsoft Excel* worksheet to make it possible to see the organised data and facilitate the management of the data set. Thus, with each code, participant opinions that could be similar or opposing to each other could be seen together. Moreover, this worksheet enabled us to see which participants expressed each code, together with their quotes (Appendix C).

Validity and the role of the researchers

Considering the validity threats of the explanatory sequential design (Creswell & Plano Clark, 2018), qualitative data collection was designed to explore more meaningful and detailed explanations. Hence, qualitative data was collected with the help of a criterion sampling technique consistent with the TAST and questionnaire findings. In the first phase, the participants were informed about the second data collection to obtain their consent. After the transcription of the interviews, member-checking was applied. The analyses were started by the first researcher. However, in collaboration with the second researcher, all the episodes of the study were checked and evaluated by considering all the arguments and comparisons. Additionally, the first researcher's occupation as an English teacher working at state schools for six years enabled us to gather deeper and richer information. We consider that this position had the role of a facilitator in the interpretations of the findings and an encouraging role to increase the participants' involvement and outspoken comments.

Results

Teachers' perception of autonomy

The means and standard deviations of the participants' scores regarding the dimensions of the TAST are given in Figure 1. According to Figure 1, the highest level of perception of autonomy is in instructional planning and implementation ($M=3.55$, $SD=0.77$). Teachers' autonomy in professional development is lower than autonomy in instructional planning-implementation and in determining the framework of the curriculum ($M=2.19$, $SD=0.98$). Since the TAST scores are on a scale of 0-4 (Figure 1), averages above 3 indicate that teachers' perception of autonomy is at a high level.

Teachers' curriculum use and preferences for oppositional curricular solutions

The participants responded to the question "How often do you use the curriculum as a guide?" as *usually* (53.1%) and *sometimes* (31.8%). The question "How useful do you find curricula as a guide?" was responded as *slightly* (62.8%) and *very* (27.7%). According to the questionnaire, the curriculum component that the participants benefit from most is *objectives* (46%), the one they benefit from least is *assessment* (46.7%). The participants responded to the question "How do curricula extend or restrict your freedom of making decisions as a teacher?" as "neither extend nor restrict" (44.8%), "restrict" (29.6%) and "extend" (15.9%). Percentages of the participants' responses to their preferences for oppositional curricular solutions are as shown in Table 3.

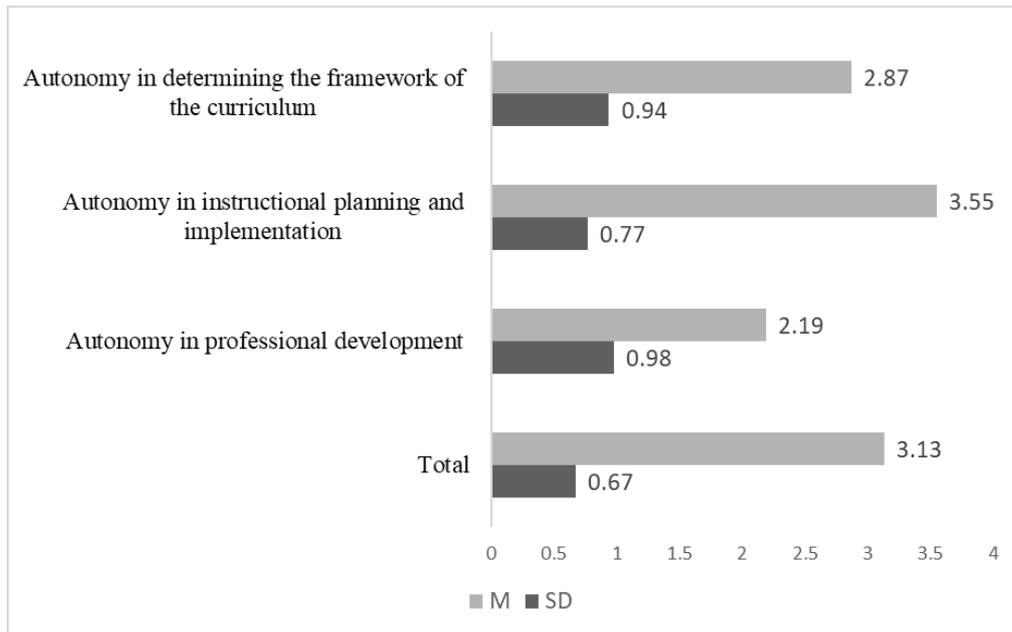


Figure 1: Teachers' autonomy levels by dimensions (N=422)

As seen in Table 3, on five items (1, 2, 4, 7, and 10) measuring whether teachers are ready or willing to be autonomous decision-makers in teaching, participants stated that they supported having prescriptive and detailed guides in teaching *instead of more autonomy*. However, according to the participants, an ideal curriculum should provide teachers with the autonomy to adapt curriculum components and directives (item 6, 67.3%). Although the findings of the first research question show that the highest TAST scores are in the autonomy in instructional planning and implementation subscale (Figure 1), the demand for autonomy in this respect is still high according to the questionnaire (item 5, 62%). Moreover, most of the participants (item 3, 57.8%) expect to have autonomy on selecting and using textbooks. However, textbooks are approved by the MoNE and distributed to students free of charge in Turkey and the use of any other textbook or supplementary resource book is not allowed (MoNE, 2016).

Table 3: Dichotomised distribution of teachers' preferences for oppositional curricular solutions as percentages (N=422)

The ideal curriculum...				
1.	...provides precise and clear recommendations.	50.7%	41.9%	...provides more freedom in terms of its recommendations.
2.	...in addition to listing the content to be taught, provides methodological guidelines for instruction.	59.7%	28.6%	...lists the content to be taught and does not provide instructional guidelines.
3.	...is provided with a whole set of compulsory textbooks, workbooks and other methodological means.	33.4%	57.8%	...provides freedom of choice in selecting textbooks and other aids to teachers.

4. ...does not give guidelines for out-of-class or out-of-school activities.	24.4%	62.3%	...gives guidelines for out-of-class or out-of-school activities.
5. ...gives teachers a lot of autonomy in the planning and implementing process of teaching.	62%	29.8%	...gives teachers detailed prescriptions for instruction.
6. ...though its components and guidelines are developed by experts, a curriculum should be adapted by teachers and schools.	67.3%	23.7%	...is one in which components and guidelines are developed by experts and made compulsory for schools.
7. ...does not go into details, it provides objectives to be achieved at the end of the subject and allocated time for this.	35.5%	53.3%	...goes into details and provides content to be taught, instructional methods and principles of assessment.
8. ...defines general competences to be achieved.	59.4%	27.4%	...does not define general competences because the achievement of these competences is not controllable.
9. ...prescribes cross-curricular themes treated in different subjects for developing general competences.	66.5%	22%	...does not prescribe cross-curricular topics in different subjects because it limits teacher's autonomy.
10. ...states observable and detailed objectives.	66.5%	23.5%	...does not state objectives in detail because achievement of objectives is beyond control.
11. ...introduces learning theories that are expected to be helpful in selecting the appropriate instructional methods.	55.9%	31.5%	...does not introduce learning theories because teachers base on their own experience rather than the learning theories.
12. ...makes it compulsory to cooperate with different subject areas.	32.7%	58.7%	...proposes to cooperate with different subjects, but allows each lesson to be separate and independent.

Expectations about teacher autonomy

As seen in the results of the questionnaire (Table 3, item 5), most of the participants interviewed (n=8) think that teachers must be given more voice when implementing the curriculum in the classroom. Teachers with high and moderate level TAST scores state that they have higher expectations of autonomy to stretch the methods, techniques, materials, and time allocated for the content suggested in the curriculum according to their student profile, whereas only two of the teachers with low TAST scores (T8 and T10) claim not each teacher should be given voice:

I may not contribute about objectives but practitioners, I mean, teachers should have a say about the subjects and materials. In my opinion, we should develop, implement, and maintain materials. (T3)

If all our teachers were aware of what they are doing, if they were all conscious citizens, then we would be given a voice. But I am sure, I have even seen that there are many

people among my colleagues who do not deserve to be a teacher. Thus, the present system should not be changed. There is already a balance maintained. I think we should have a say in the way we already do. (T8)

The links between teachers' autonomy and their use and adaptation of the curriculum

Participants want the course to be comprehensible and catchy for the student profile when planning their lessons. However, they stated that they make changes (adaptations) when they think the subject or activities are not appropriate for the students. Adaptation patterns used by the participants are *extending, replacing and revising, and omitting*.

Extending

Based on the data obtained from the interviews, teachers create new things and extend the curriculum when there are elements they do not like in the curriculum or textbook. Particularly when the textbook provided by the MoNE remains insufficient and students' demands/questions increase, they search for new materials and design different activities.

Replacing and revising

Another way of adaptation when implementing the official curriculum is replacing/revising in the times allocated for and the order of certain subjects. Student profiles and needs cause teachers to make changes in the time allocated for the content. In addition, teachers believe some subjects are not ordered correctly in the curriculum, so they bring forward the subjects that need to be taught earlier making learning easier.

Omitting

The last adaptation pattern used by the teachers is omitting. Subjects considered unsuitable for the student profile are omitted. Subjects that are not included in the national (central) exams they will take, those that were previously taught in a quick and good way are omitted. The participants, however, think that changing the curriculum content completely is not legal. It is seen that some connections exist when teachers' curriculum adaptation patterns and TAST scores are examined together. The joint display of teachers' perceived autonomy and their adaptations is presented in Table 4.

It was concluded that the teachers interviewed omit subjects rarely ($n=3/10$) and two of the teachers who choose omitting have a high and the other one has a moderate TAST score. Therefore, omitting is mostly done by teachers with medium and high TAST scores. As seen in Table 4, some differences are remarkable in the adaptations made by teachers, particularly those with low and high autonomy scores. For instance, a teacher with a low autonomy score (T9) stated that he/she applies extending only upon the approval of families and all these teachers with a low autonomy perception expressed that they do not choose omitting. In other words, teachers with low autonomy perceptions seem to be more faithful to the curriculum. However, while these participants state that changing the curriculum content is not legal, they provided detailed examples of their adaptations for revising/replacing. Therefore, it could be asserted that teachers with low autonomy scores prefer replacing/revising rather than omitting and extending.

Table 4: Quotes related to teachers' adaptations with low, moderate and high TAST scores

<i>Extending</i>	
Unlike the official program or textbook expected to be used by the government, the teacher creates something new in teaching or makes additions to teaching by using other resources.	
Low TAST score teachers	I'm not free to choose the content. Because the content already comes ready, you implement it. (T10) Receiving families' approval, we offer extra supplementary resources to them [students]. And they are very happy, pleased with this. We use supplementary resources, books to help them. (T9)
Moderate TAST score teachers	Since the textbooks given by the MoNE are not adequate in providing information... students cannot get enough efficiency when they study those books. Therefore, we have them get additional resources or we provide further support. (T4) I mean, we can choose additional books, but we have to follow the curriculum already given to us, we have no other choice. (T6)
High TAST score teachers	Well, if I teach for very good classes, the textbook is sufficient to a certain degree and the student's demands increase after some point. So I try to develop materials. We create new activities. We design activities in different cognitive-affective levels to make students look from different perspectives. (T3) For example, the student has extra needs. I try to fulfil their needs with new materials that I prepared according to her/him. Doesn't happen any other way. (T1)
<i>Replacing and revising</i>	
Replacing and revising of the teacher in the official curriculum or curriculum materials in terms of format, duration, and order.	
Low TAST score teachers	You know; I wait for at least eighty percent of the class to understand a subject before I pass onto the next one. So, time varies, too. You know, it is given a week on the curriculum but you teach it in two or three weeks... Sometimes we don't follow the order of the subjects, too. Sometimes they are given in such an order in the curriculum that you can't reach the objective unless you present one subject before another one. (T10) So the order of topics is sometimes given in such a way that in the curriculum if you do not give the subject before that, you will not be able to reach the goal. What are we doing? We give subject A first, then we have to move on to the other subject. (T9)
Moderate TAST score teachers	As I just said, we are making a change on a time basis. Sometimes the subject given to me is based on the curriculum... we can make changes in the annual plan that we have prepared. I mean, if it takes three weeks, but if it's a topic that ends in two weeks, shorten it... so we can make changes in the form of lengthening and shortening the subject. (T4) I sometimes extend the time. And sometimes I shorten it. Well, if outcomes are generated in the class, outcomes are gained [learned], I continue. But generally, we extend the time. (T6)

High TAST score You know, even if I don't change the subject completely, you can give the teachers examples differently. Depending on the school you work at, according to the demands, needs of its environment... I can change the teaching method, you know, the method-techniques specified by the curriculum. Some flexibility in timing. I can hardly... [do these]. (T2)
I'm making a change in time, of course. Now, if the subject is very important for slow learners, I spend more time. But I cut that period from more understandable issues. We have to balance this way. (T3)

Omitting

Failure or negligence by the teacher of parts considered to be impractical or useless in the official curriculum or curriculum materials

Low TAST score ---
teachers

Moderate TAST We can never make changes in subjects. As this means changing the curriculum score teachers content completely... (T5)

High TAST score If it is not suitable for students' level, if it is far lower than the students' level, teachers for example, we omit the subject. (T3)

On the other hand, teachers with high autonomy scores gave several examples for adaptations classified as extending and revising/replacing. When the adaptation patterns expressed by the teachers are counted and compared in terms of their TAST scores, those with high TAST scores (n=3) stated that they use extending, replacing/revising and omitting most frequently. The most frequently used patterns by the teachers with a moderate level of TAST scores (n=4) are replacing/revising, extending and omitting, in order. Teachers with low levels of TAST scores (n=3) apply replacing/revising most commonly, extending in the second place while they never use omitting. These teachers listed their reasons for adaptation by extending as follows: (1) activities that are not suitable for student level; (2) inadequacy of activities that address different domains of learning (cognitive, affective, psychomotor) in curricula or textbooks; and (3) students' needs, demands and feedbacks.

Discussion

In contrast to previous studies indicating that teacher autonomy is low in Turkey (Çelik, Gümüş & Gür, 2017; Global Education Monitoring Report Team, 2017), the autonomy perception of teachers in this study is high in general (M=3.13 out of 4). This contradiction can be explained by considering autonomy in terms of administrative/ political/ institutional dimensions in those studies. As a matter of fact, in other studies (Çolak & Altinkurt, 2017; Yazıcı & Akyol, 2017) dealing with educational and developmental dimensions of autonomy, teachers' perceptions of general autonomy were found to be higher than moderate level and these results were interpreted as they being willing to take initiative. Just as teachers in Canbolat's (2020) study were willing to increase their autonomy in instructional, administrative, personal and professional development, some of the findings of this study (see Table 3, item 5 and qualitative findings on expectations) show that teachers demand more autonomy. Although Turkish teachers' TAST scores are high, it is concluded that they still feel that this is not enough.

Based on the findings, teachers who think that the textbooks are *inadequate* in giving information and *inefficient* for students' learning tend to use supplementary resources upon parents' consent although it is forbidden. It is also true for Vietnamese teachers as they have *limited* autonomy in choosing the materials they use in class (Nguyen & Walkinshaw, 2018). Similarly, Estonian teachers reported a great difference between the instruction they plan and the realities of the class because of inadequate textbooks (Erss, 2018). Trying to practise teaching without the guidance of any textbook puts pressure on teachers to be more autonomous when selecting the content and Erss (2018) defined it as *forced autonomy* (p.249). However, "as soon as a textbook is put into practice, it starts to be seen as the curriculum rather than a practice book, which in turn restrains teachers' autonomy" (Erss, 2018, p.249). Similarly, we believe that the textbooks designed in a centralistic way in Turkey create a *nominal autonomy* perception, because of which teachers still cannot feel autonomous despite taking high scores in autonomy in instructional planning and implementation.

It would be good to compare the results of the present study to the findings revealed by Viirpalu et al. (2014) and Tuul et al. (2015). In all three of these studies, teachers stated that the ideal curriculum should include methodological guidelines along with the subjects to be taught (Table 3, item 2). The ratio of the teachers agreeing that the ideal curriculum should present detailed educational objectives was found as 66.5% (Table 3, item 10) in our study, 39% by Viirpalu et al. (2014), and 57% by Tuul et al. (2015) (the findings are given in means in the study conducted by Tuul et al (2015), so those numbers were turned into percentages in the present study for comparison purposes). All three studies asked about the effect of the curriculum on their freedom of decision-making. According to the findings of the present study, the ratio of the teachers suggesting curricula have no restrictive or extending effect on their freedom of decision making is 44.8%, while it was found as 70% by Viirpalu et al. (2014) and 72% by Tuul et al., (2015). Based on these findings, it could be interpreted that the restrictive effect of the centralised curriculum on teacher autonomy is perceived more in Turkey.

On the other hand, it was also seen that Turkish and Estonian teachers have opposing ideas about preferences for oppositional curricular solutions. For instance, the ratio of the teachers supporting the idea that the curriculum should present the content, teaching methods and assessment principle in a detailed way is 53.3% (Table 3, item 7) in our study, whereas it was found as 36% by Viirpalu et al., (2014). Likewise, 33% (Table 3, item 12) of the Turkish teachers agree that the ideal curriculum should offer cross-curricular themes while this ratio is 85% in Estonia (Viirpalu et al., 2014). These differences naturally stem from many historical-cultural, economic and contextual factors that could be further explored through comparative studies. Even if it is dealt with based on a specific course or grade level, a great number of comparative results can be obtained since teacher autonomy is a context-dependent (Palsrud & Wermke, 2019) concept.

Turkish teachers expect the curriculum to present all the steps of the instructional process in detail while providing opportunities for adaptation and flexibility at the same time. In other words, teachers see themselves as autonomous professionals and curriculum developers in their ideals rather than their daily professional practices (Tuul et al., 2015).

Erss (2018) concluded that especially younger and less experienced teachers feel safer with rules and certain limits. In this respect, it can be considered that the relatively younger age and less experience of the teachers participating in our study (as seen in Appendix A, the number of participants aged 20-40 is 287; the number of those having 1-15 years of experience is 277) caused them to need more detailed guidelines.

According to the findings, the adaptations teachers make on the curriculum (extending, replacing/revising and omitting) confirm the patterns specified in the USA (Burkhauser & Lesaux, 2017), People's Republic of China (Li & Harfitt, 2017) and Turkey (Bümen & Yazıcılar, 2020). Baş and Şentürk (2019) found that teachers could be decision-makers in the components of teaching and assessment rather than objectives and subjects in the curriculum. Teachers participating in the present study, as well, seem not to prefer activities like adding, omitting objectives, or changing the subject as they perceive them as radical changes. This supports the quantitative findings showing that teachers' perceived autonomy in instructional planning and implementation is higher than their perceived autonomy in making decisions about the curriculum (see Table 3).

Besides, teachers with low TAST scores make more adaptations related to revising/replacing interestingly. Some of the curricula implemented by teachers with low scores include explanations indicating that changes can be made in the order and timing of the objectives (i.e. MoNE, 2018a; 2018b). We believe that these explanations make teachers with low autonomy scores feel comfortable and facilitate making adaptations of revising/replacing which are perceived as more *legal* compared to other adaptation patterns. Similarly, having a higher TAST score can be thought to decrease hesitance to admit using omitting - which is a more risky adaptation pattern to express (this is because teachers in Turkey know that they would be indicted unless they precisely followed the subjects and objectives in the curriculum). Eventually, we claim that there is a link between teachers' perceived autonomy and their adaptation patterns.

Interestingly, although teachers' autonomy in instructional planning and implementation is higher according to TAST scores (see Table 3); they still expect to have more autonomy in class compared to other dimensions based on both the results of the questionnaire (Table 3, item 5) and qualitative findings (especially in those with high and moderate TAST scores). Recent studies report that Turkish teachers believe they have no effect or power in shaping educational policies since their roles and responsibilities in the curriculum development are ambiguous (Baş & Şentürk, 2019). Remembering that half of the teachers participating in a large-scale study thought they were passive practitioners of the decisions taken and they have no effect in shaping educational policies (Yurdakul et.al., 2016), it is confirmed that teachers feel the responsibility to implement the curriculum rather than develop it and they have no say in selecting the content. Turkish teachers seem to accept that they are not able to change the basic structure of the education system, they will never be given more authority and their autonomy will never be increased, which means they accept their current position.

For Turkey, a country that has had a centralised education system for decades, such results are not very surprising. Just like in Estonia (Tuul et al., 2015), this indicates the

threat that everything imposed by the government will be accepted without any questioning and teachers will inarguably accept the tasks and responsibilities which do not contribute to their professionalisation. Actually and unfortunately, this confirms Bümen's (2019) claim that de-professionalisation has increased in Turkey and implies that teachers act as automatons.

Conclusions

This study offers several contributions to the field of teacher autonomy in using and adapting curriculum. First, both quantitative and qualitative findings are presented concerning the educational and developmental domains in the vertical dimension, and classroom level in the horizontal dimension of teacher autonomy (Paulsrud & Wermke, 2019). Although the findings reveal that Turkish teachers feel more autonomous in instructional planning and implementation than designing the framework of curricula and professional development, they indeed want more. Secondly, the study contributes by revealing the results of the dilemmas experienced by teachers in terms of autonomy in using the curriculum. For example, the fact that textbooks are found inadequate by teachers forces them to use supplementary books despite not being allowed to, which brings about *nominal autonomy* still making teachers fail to feel autonomous. Third, in a country that is governed in quite a centralised way (Bümen, 2019; Çelik et al., 2017), the study discusses teachers' preferences for the ideal curriculum by comparing with previous studies in Estonia (Viirpalu et al., 2014; Tuul et al., 2015). These comparisons provide information about the possible states of teachers in both countries and also serve as an example for future studies.

Finally, as there is no study on this topic to the best of our knowledge, it could be said that the study is the first to explore the links between teacher autonomy and curricular adaptations. The findings shed light on the understanding of differences in the adaptation patterns used by teachers who have high and low autonomy scores. Moreover, no matter how centralistic the country is, no matter how much autonomy is restricted, the findings once again reveal that teachers make several adaptations with the expectation of a flexible curriculum.

We conclude by acknowledging some methodological limitations. First, the sample reflecting only the western part of the country limits the generalisability of the study. Second, only interviews were conducted to determine the adaptations made by teachers, which, in fact, should be supported by observations. Finally, the teachers interviewed may not be sufficient to represent different grade levels and subjects. Future research might profitably survey a larger sample and interview participants from a wide range of diversity.

Implications and further research

Turkish teachers should be encouraged more to participate in curriculum development and autonomy should be extended in all dimensions, particularly in instructional planning and implementation. Similarly, it would be beneficial to make transformational models (Kennedy, 2014) more common to promote autonomy in professional development. For

teachers to make *productive adaptations* instead of *lethal mutations* (Troyer, 2019), they need support in how to adapt the curriculum under the conditions specific to the school, region and classes they work. Curricula could provide teachers with suggestions or options to be considered when making adaptations (Bümen, 2019; Yazıcılar & Bümen, 2019), and professional development can be organised focusing on adaptation skills.

It is also recommended that further studies examine the relations between teacher autonomy and student performance. Links among teacher autonomy, curriculum adaptations and teachers' pedagogical design capacity can be explored. Finally, qualitative studies aiming to reveal the detailed relations between curriculum adaptations with a certain course focus and teacher autonomy can contribute to both the fields of curriculum studies and teacher education.

Acknowledgments

We are grateful to Piret Viirpalu, Edgar Krull and Rain Mixer for translating and sharing with us their questionnaire during this study.

Declaration of conflicting interests

The authors declared no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

- Baş, G. & Şentürk, C. (2019). Teachers' voice: Teacher participation in curriculum development process. *i.e.: inquiry in education*, 11(1), article 5. <https://digitalcommons.nl.edu/ie/vol11/iss1/5>
- Burkhauser, M. A. & Lesaux, N. K. (2017). Exercising a bounded autonomy: Novice and experienced teachers' adaptations to curriculum materials in an age of accountability. *Journal of Curriculum Studies*, 49(3), 291-312. <https://doi.org/10.1080/00220272.2015.1088065>
- Bümen, N. T. (2019). Türkiye'de Merkeziyetçiliğe Karşı Özerklik Kısılcacında Eğitim Programları: Sorunlar ve Öneriler [Curriculum in the claws of autonomy against centralism in Turkey: Issues and suggestions]. *Kastamonu Eğitim Dergisi [Kastamonu Education Journal]*, 27(1), 175-185. <https://doi.org/10.24106/kefdergi.2450>
- Bümen, N. T. & Yazıcılar, Ü. (2020). Öğretmenlerin Öğretim Programı Uyarlamaları Üzerine Bir Durum Çalışması: Devlet ve Özel Lise Farklılıkları [A case study on the teachers' curriculum adaptations: Differences in state and private high school]. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi [Gazi University Journal of Gazi Education Faculty]*, 40(1), 183-224. <https://doi.org/10.17152/gefad.595058>

- Canbolat, Y. (2020). Türkiye'de Ortaöğretim Öğretmenlerinin Mesleki Özerkliği: Var Olan ve Olası Politikaların Bir Analizi [Professional autonomy of high school teachers in Turkey: A retrospective and prospective policy analysis]. *Education & Science*, 45(202), 141-171. <https://doi.org/10.15390/EB.2020.7833>
- Çelik, Z., Gümüş, S. & Gür, B. S. (2017). Moving beyond a monotype education in Turkey: Major reforms in the last decade and challenges ahead. In Y. K. Cha, J. Gundara, S. H. Ham & M. Lee, (Eds.), *Multicultural education in glocal perspectives*, (pp.103-119). Singapore: Springer Nature. https://doi.org/10.1007/978-981-10-2222-7_8
- Çolak, İ. & Altınkurt, Y. (2017). The relationship between school climate and teacher autonomy behaviors. *Educational Administration: Theory and Practice*, 23(1), 33-71. <https://www.mendeley.com/catalogue/34b31e5b-8ffa-34dd-943c-275edad65991/>
- Creswell, J. W. & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research*. Thousand Oaks, CA: SAGE. <https://au.sagepub.com/en-gb/oce/designing-and-conducting-mixed-methods-research/book241842>
- Davis, E. A., Beyler, C., Forbes, C. T. & Stevens, S. (2011). Understanding pedagogical design capacity through teachers' narratives. *Teaching and Teacher Education*, 27(4), 797-810. <https://doi.org/10.1016/j.tate.2011.01.005>
- Dincer, A. (2019). Language teacher autonomy in Turkish EFL context: Relations with teachers' autonomy and job satisfaction levels. *I-manager's Journal on English Language Teaching*, 9(2), 11-25. <https://doi.org/10.26634/jelt.9.2.15470>
- Erss, M. (2018). 'Complete freedom to choose within limits' – teachers' views of curricular autonomy, agency and control in Estonia, Finland and Germany. *The Curriculum Journal*, 29(2), 238-256. <https://doi.org/10.1080/09585176.2018.1445514>
- Gelmez Burakgazi, S. (2020). Curriculum adaptation and fidelity: A qualitative study on elementary teachers' classroom practices. *Issues in Educational Research*, 30(3), 920-942. <http://www.iier.org.au/iier30/gelmez-burakgazi.pdf>
- Global Education Monitoring Report Team (2017). *Accountability in education: Meeting our commitments; Global education monitoring report summary, 2017/8*. UNESCO (United Nations Educational, Scientific and Cultural Organization). <http://unesdoc.unesco.org/images/0025/002595/259593e.pdf>
- Gürten, E., Demirkaya, A. S. & Doğan, N. (2019). Uzmanların PISA ve TIMSS Sınavlarının Eğitim Politika ve Programlarına Etkisine İlişkin Görüşleri [Experts opinions on the impacts of PISA and TIMSS exams on educational policies and curriculum]. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi*, 52, 287-319. <https://doi.org/10.21764/maeuefd.599615>
- Hu, L. T. & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55. <https://doi.org/10.1080/10705519909540118>
- Jeong, D. W. & Luschei, T. F. (2018). Are teachers losing control of the classroom? Global changes in school governance and teacher responsibilities, 2000-2015. *International Journal of Educational Development*, 62, 289-301. <https://doi.org/10.1016/j.ijedudev.2018.07.004>
- Jöreskog, K. G. & Sörbom, D. (1993). *LISREL 8: Structural equation modelling with the SIMPLIS command language*. Lincolnwood: Scientific Software International Inc. <https://psycnet.apa.org/record/1993-97878-000>

- Kennedy, A. (2014). Understanding continuing professional development: The need for theory to impact on policy and practice. *Professional Development in Education*, 40(5), 688-697. <https://doi.org/10.1080/19415257.2014.955122>
- Krejcie, R. V. & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610. <https://doi.org/10.1177/001316447003000308>
- Li, Z. & Harfitt, G. J. (2017). An examination of language teachers' enactment of curriculum materials in the context of a centralised curriculum. *Pedagogy, Culture and Society*, 25(3), 403-416. <https://doi.org/10.1080/14681366.2016.1270987>
- MoNE [Ministry of National Education] (2016). Milli Eğitim Bakanlığı ders kitapları ve eğitim araçları yönetmeliği [Ministry of National Education textbooks and educational tools regulation]. http://ttkb.meb.gov.tr/meb_iys_dosyalar/2016_01/12113913_yonetmelikderskitaplari.pdf
- MoNE [Ministry of National Education] (2018a). Matematik dersi (1-8. sınıflar) öğretim programı [Mathematics course (grades 1-8) curriculum]. Ankara: Milli Eğitim Bakanlığı.
- MoNE [Ministry of National Education] (2018b). Ortaöğretim İngilizce dersi (9-12. Sınıflar) öğretim programı [Secondary schools English lesson (grades 9-12) curriculum]. Ankara: Milli Eğitim Bakanlığı.
- Nguyen, X. N. C. M. & Walkinshaw, I. (2018). Autonomy in teaching practice: Insights from Vietnamese English language teachers trained in Inner-Circle countries. *Teaching and Teacher Education*, 69, 21-32. <https://doi.org/10.1016/j.tate.2017.08.015>
- Patton, M. Q. (2014). *Qualitative research & evaluation methods: Integrating theory and practice*. Thousand Oaks, CA: SAGE. <https://au.sagepub.com/en-gb/oc/qualitative-research-evaluation-methods/book232962>
- Paulsrud, D. & Wermke, W. (2020). Decision-making in context: Swedish and Finnish teachers' perceptions of autonomy. *Scandinavian Journal of Educational Research*, 64(5), 706-727. <https://doi.org/10.1080/00313831.2019.1596975>
- Pearson, L. C. & Moomaw, W. (2005). The relationship between teacher autonomy and stress, work satisfaction, empowerment and professionalism. *Educational Research Quarterly*, 29(1), 38-54. <https://eric.ed.gov/?id=EJ718115>
- Remillard, J. T. (2005). Examining key concepts in research on teachers' use of mathematics curricula. *Review of Educational Research*, 75(2), 211-246. <https://doi.org/10.3102/00346543075002211>
- Sherin, M. G. & Drake, C. (2009). Curriculum strategy framework: Investigating patterns in teachers' use of a reform-based elementary mathematics curriculum. *Journal of Curriculum Studies*, 41(4), 467-500. <https://doi.org/10.1080/00220270802696115>
- Snyder, J., Bolin, F. & Zumwalt, K. (1992). Curriculum innovation. In P. W. Jackson (Ed.), *Handbook of research on curriculum*, (pp. 402-435). New York: Macmillan.
- Şahin İpek, D. (2017). The relationship between teacher reflection and teacher autonomy with respect to certain variables. *MSc thesis*, Middle East Technical University, Turkey. <https://etd.lib.metu.edu.tr/upload/12621231/index.pdf>
- Taylor, M. W. (2016). From effective curricula toward effective curriculum use. *Journal for Research in Mathematics Education*, 47(5), 440-453. https://www.nctm.org/Publications/Journal-for-Research-in-Mathematics-Education/2016/Vol47/Issue5/Research-Commentary_-From-Effective-Curricula-Toward-Effective-Curriculum-Use/

- Troyer, M. (2019). "And then my creativity took over": Productivity of teacher adaptations to an adolescent literacy curriculum. *The Elementary School Journal*, 119(3), 351-385. <https://doi.org/10.1086/701719>
- Tuul, M., Mikser, R., Neudorf, E. & Ugaste, A. (2015). Estonian preschool teachers' aspirations for curricular autonomy - the gap between an ideal and professional practice. *Early Child Development and Care*, 185(11-12), 1845-1861. <https://doi.org/10.1080/03004430.2015.1028387>
- Ulaş, J. & Aksu, M. (2015). Development of teacher autonomy scale for Turkish teachers. *Procedia - Social and Behavioural Sciences*, 186(1), 344-349. <https://doi.org/10.1016/j.sbspro.2015.04.023>
- Vangrieken, K., Grosemans, I., Dochy, F. & Kyndt, E. (2017). Teacher autonomy and collaboration: Conceptualising and measuring teachers' autonomy and collaborative attitude *Teaching and Teacher Education*, 67, 302-315. <https://doi.org/10.1016/j.tate.2017.06.021>
- Viirpalu, P., Krull, E. & Mikser, R. (2014). Investigating Estonian teachers' expectations for the general education curriculum. *Journal of Teacher Education for Sustainability*, 16(2), 54-70. <https://doi.org/10.2478/jtes-2014-0011>
- Wermke, W. & Höstfält, G. (2014). Contextualizing teacher autonomy in time and space: A model for comparing various forms of governing the teaching profession, *Journal of Curriculum Studies*, 46(1), 58-80, <https://doi.org/10.1080/00220272.2013.812681>
- Wronowski, M. L. (2020). De-professionalized and demoralized: A framework for understanding teacher turnover in the accountability policy era. *Leadership and Policy in Schools*, online first. <https://doi.org/10.1080/15700763.2020.1734209>
- YAZICI, A. Ş. & Akyol, B. (2017). Okul Müdürlerinin Liderlik Davranışları İle Öğretmen Özerkliği Arasındaki İlişki [The relationship between leadership behaviors of school principals and autonomous behaviors of teachers]. *The Journal of International Education Science*, 4(10), 189-208. <https://doi.org/10.16991/INESJOURNAL.1365>
- Yazıcılar, Ü. & Bümen, N. T. (2019). Crossing over the brick wall: Adapting the curriculum as a way out. *Issues in Educational Research*, 29(2), 503-609. <http://www.iier.org.au/iier29/yazicilar.pdf>
- Yurdakul, S., Gür, B. S., Çelik, Z. & Kurt, T. (2016). *Öğretmenlik mesleği ve mesleğin statüsü* [Teaching profession and status of profession]. Ankara: Eğitim Bir-Sen Yayınları.

Appendix A: Demographics of teachers in the first phase (N=422)

Variable	Demographics	n	%
Gender	Female	269	63.8
	Male	152	36.2
Age	20-25	31	7.5
	26-30	127	30.7
	31-35	76	18.4
	36-40	53	12.8
	41-45	35	8.4
	46-50	52	12.6
	51-55	29	7.0
	56-60	10	2.4

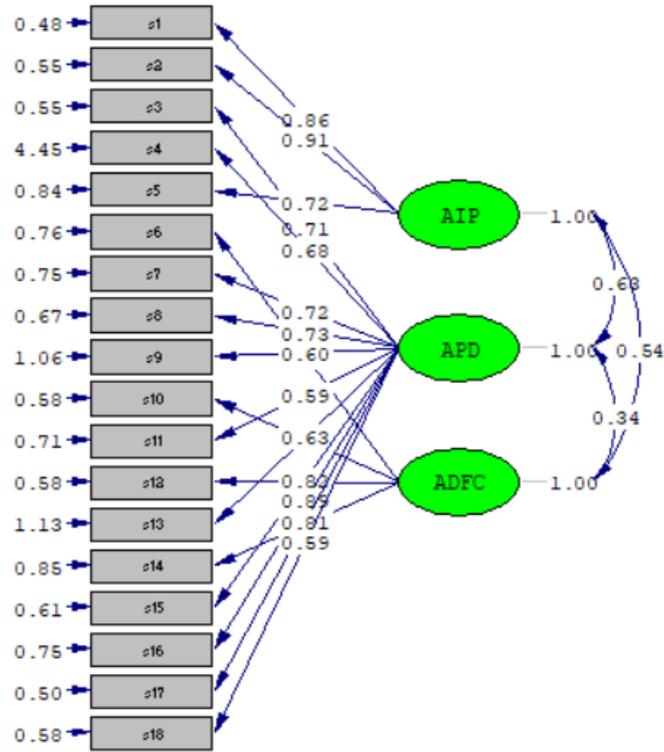
School level	Kindergarten	6	1.5
	Primary school	68	16.3
	Secondary school	210	50.5
	High school	132	31.7
School type	Public	296	71.1
	Private	120	28.9
Years of teaching	1-5	120	29.0
	6-10	101	24.4
	11-15	56	13.5
	16-20	44	10.7
	21-25	38	9.2
	26-30	34	8.2
	31-35	16	3.9
Weekly cours hours	10-15	18	4.6
	16-20	56	14.5
	21-25	108	27.7
	26-30	173	44.5
	31-35	24	6.2
	36-40	10	2.5
Education	Associate degree	45	10.8
	Bachelor's degree	322	77.0
	Graduate degree	51	12.2
Subject	Social sciences and Turkish language	214	51.6
	Mathematics and science	107	25.8
	Foreign languages	59	14.2
	Physical education	20	4.8
	Art education	15	3.6

Appendix B: TAST factor structures and psychometric properties

The *Teacher Autonomy Scale-Turkish* (TAST) is an instrument to measure the level of autonomy of Turkish teachers. Ulaş and Aksu (2015) collected data from 292 teachers working in state elementary schools located in five main districts of Ankara, and analysed through exploratory factor analysis (EFA) in order to investigate the factor structure of the instrument. EFA resulted in three factors named as (1) autonomy in instructional planning and implementation; (2) autonomy in professional development; and (3) autonomy in determining the framework of the curriculum. Cronbach's alpha coefficient was .91, .80 and .86, respectively (Ulaş & Aksu, 2015).

Confirmatory factor analysis (CFA) was conducted to confirm the factor structures and retest the reliability and validity of the scale (N=422) in this study. Accordingly, factor loadings of the items in the three subscales had values ranging between 0.72-0.91; 0.59-0.81; and 0.60-0.82 respectively. All the path coefficients indicated in the three-factor model tested were found statistically significant at the $p < 0.001$ level. In addition, CFA revealed that the model is statistically significant and good fit indices ($\chi^2/SD=2.94$;

RMSEA=0.07; SRMR=0.06; CFI=0.96; NNFI=0.96; GFI=0.90; AGFI=0.87) met the criteria suggested by the literature (Hu & Bentler, 1999; Jöreskog & Sörbom, 1984). Cronbach's alpha coefficients found for autonomy in instructional planning and implementation, autonomy in professional development, and autonomy in determining the framework of the curriculum subscales and the whole scale are 0.86; 0.84; 0.76; and 0.87 respectively.



Chi-Square=388.55, df=132, P-value=0.00000, RMSEA=0.070

A path diagram of the TAST ($\chi^2 = 388.55$; $df = 132$; $p < 0.001$) (AIP: Autonomy in instructional planning and implementation; APD: Autonomy in professional development; ADFC: Autonomy in determining the framework of the curriculum).

Appendix C: A cross-section of the organisational stage in qualitative data analysis (codes with related quotes)

	A	B	C	D	E	F	G	H	I	J	K
1		T6	T10	T4	T7	T9	T5	T8	T1	T3	T2
16	parent approval										
17	Planning and Implementation of Teaching										
18	Planning the lesson										
19	Checking the annual plan										
20	Time planning										
21	Preparing materials										
22	Things to consider when planning										
23	Students' profile										
24	Memorable content										
25	Apprehensible content										
26	Teachers' use and adaption of the curriculum										
27	Extending										
28	Replacing and revising										
29	Omitting										
30	Things to consider when making adaption										
31	Student success										
32	Student needs										
33	Student level										
34	Teachers' Autonomy in Planning and Implementation Teaching										
35	Limited autonomy in determining...										
36	Objectives										
37	Content										
38	Learning experiences										
39	Assessment										
40	Limited practitioner's opinion										

PC:
Well, obviously, we are not very free, of course. Because, objectives, books or lesson contents, these are the items that MoNE offers us and cannot be changed.

Appendix D: Interview questions

Warm-up questions

How many years have you been teaching? Where did you work?

Have you ever experienced curriculum revision? How many curriculum revisions have you seen before?

1. Do you use the curriculum and books offered by MoNE while you are teaching?
If yes, how do you use them? If no, why do you not use them? What do you use instead? What do you base on?
Probe: How do you take advantage of these?
2. How do you prepare before your classes? What are your most basic preparations?
Probe: What do you pay attention to?
Do you develop plans or materials? How?
3. Do you make any adaptations while implementing the curriculum?
If yes, why and how?
If no, what do you do when you think the curriculum is not suitable for your school and students?

Probe: Which one of the options do you use like developing new activities and materials, replacing, omitting, using different resources, making changes in timing, making changes in the order of the content?

4. How free do you feel when implementing the curriculum?

Probe: How free do you feel in terms of objectives, content, books, materials, and exams?

5. How much right to say do you think you have in the process of developing a curriculum?

6. Would you like to have more say in the process of developing a curriculum? Why? If yes, in which ways would you like to have more say?

7. To what extent should teachers have a say in the development and implementation of the curriculum?

Probe: How much should teachers have a say in determining objectives, content, books materials, and exams?

Meryem Tokgöz Can *MA* is an English teacher in Öğretmenevleri Primary School, 34820 Istanbul, Turkey. Her research interest includes curriculum and teaching English as a foreign language.

Email: mrymtkgz@gmail.com

Nilay T. Bümen *PhD* (corresponding author) is currently a professor of Curriculum and Instruction at Ege University Faculty of Education, Bornova Campus, 35040 Izmir, Turkey. Her research interest includes curriculum studies, effective teaching and teacher education.

Email: nbumen@gmail.com

Please cite as: Tokgöz Can, M. & Bümen, N. T. (2021). Turkish teachers' autonomy in using and adapting curriculum: A mixed methods study. *Issues in Educational Research*, 31(4), 1270-1292. <http://www.iier.org.au/iier31/tokgoz-can.pdf>