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UNDERSTADING OF FEEDBACK BY YOUND ADOLESCENTS AS A FACTOR OF THEIR AGENCY

SUMMARY OF THE THESIS

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Introduction

Research terminology

(given according to semantic relatedness, not in the alphabetical order)

Formative assessment – the process of searching for and interpreting information about students' progress in order to make better decisions regarding the further learning process for these students than without this information. [Black, Wiliam, 2002; Pinskaya, 2010]; it is aimed at providing feedback to students and teachers to identificate the areas for improvement and adjusting instruction.

Feedback – the process of communication between participants of the educational process (in our case, the teacher and the pupil), built on the basis of formative and summative assessment results. The outcomes of the feedback for the pupil is the information about their current and potential performance, and the information how to close the gap between them. [Hattie, Timperley, 2007; Carless, Boud, 2018].

Feedback literacy – understandings, capacities and dispositions needed to make sense of information and use it to enhance work or learning strategies. [Carless, Boud, 2018].

Key competencies – a person's ability to act effectively in diverse situations not constrained to a specific discipline, relying on a combination of knowledge, skills, attitudes and values that are mobilized in a particular context to meet the requirements of a given task or problem. [Dobryakova et al., 2020].

Domain-general literacy – one's ability to use sign/symbol systems and related communication tools in various situations and contexts. [Dobryakova et al., 2020].

Understanding feedback – a set of essential skills involved in analyzing, interpreting, and taking action on received feedback information to close the gap between the current and desired situation. Understanding feedback is based on subject specific knowledge, a combination of various elements of key competencies, as well as on the student's attitudes and values, which are mobilized in a particular sequence needed for successful task completion. [Black, Wiliam, 1998; Wiggins, McTighe, 2005; Carless, Boud, 2018; Dobryakova et al., 2020].

Student agency – a student's ability to perform intentionally and proactively during learning activities, going beyond the constrains set by adults. Student agency is aimed at changing the current situation for oneself and others. [Dobryakova, Yurchenko, 2023; Polivanova, Bochaver, 2024; Goshin, Sorokin, 2024].

Relevance of the Study

Feedback as a form of communication between a teacher and a student is an essential component of the learning process and has existed for as long as people teach and learn [Boud, Molloy, 2013; Panadero, Lipnevich, 2022]. Moreover, feedback in education is one of the most effective tools for improving learning outcomes, as confirmed by numerous studies [Kluger, DeNisi, 1996; Hattie, Timperley, 2007; Shute, 2008] and meta-analyses conducted over the past 25 years [Hattie, 2017, 2021]. It is considered to be "critical to improving knowledge and skill acquisition" [Shute, 2008, p. 153].

According to P. Black & D. Wiliam, organizing feedback that helps learn is one of the key strategies of formative assessment [Black, Wiliam, 2009], which is a necessary element of modern education [Pinskaya, 2010-1]. Acquiring feedback theory makes formative assessment more accurate and comprehensive [Lipnevich et al., 2016].

Globally, feedback has been studied for several decades, during which various typologies of feedback have been developed (for example, corrective/instructive, directive/facilitative, etc.) [Shute, 2008]. The conditions for its effectiveness have been identified in terms of content, timing, learner level, and others. In particular, it has been found that not all feedback leads to the expected results. According to the meta-analysis by Kluger & DeNisi, up to one-third of feedback can have the opposite effect [Kluger, DeNisi, 1996]. This may be due to various reasons, including the fact that when students discover a significant gap between the current and desired state, they do not necessarily choose to increase their efforts, as teachers might expect. Instead, they may opt for one of three alternative paths: lowering their aspirations (initial standard), abandoning the goal altogether, or ignoring the feedback received [Kluger, DeNisi, 1996].

Among other long-established but still rarely considered facts about feedback is the timing of its delivery. Contrary to the common belief often promoted on teacher websites, the rule "the sooner, the better" does not always apply. In certain cases (for example, when developing complex skills), delayed feedback is preferable to immediate feedback [Shute, 2008]. Thus, although meta-analyses show that feedback is among the top ten factors with the largest effect size for improving academic achievement [Hattie, 2021], significant results from its use can only be expected when certain conditions are met, or, as Shute pointed out, "feedback can significantly improve learning processes and outcomes, if delivered correctly" [Shute, 2008, p. 154].

With the growing number of studies dedicated to the quality of teacher feedback, the scholarly and pedagogical community has come to understand that dissatisfaction with the results of feedback use lies not only in what, how, and when the teacher communicates, but also in how feedback is subsequently used by students, as well as in some characteristics of teachers

themselves, beyond knowledge of feedback principles. This led to the development of the conceptions of student feedback literacy [Sutton, 2012; Carless, Boud, 2018; Molloy et al., 2020] and teacher feedback literacy [Carless, Winstone, 2020; Boud, Dawson, 2021].

The theoretical framework of the conception of "student feedback literacy" includes four components: appreciating feedback process, make judgments about the quality of work of oneself and others, the ability to manage affect arising from receiving feedback, and, based on the first three characteristics, the ability to take action after receiving feedback to close the feedback loop (i.e., applying the information or new strategies to another task [Boud, Molloy, 2013]).

A global mainstream in the study of feedback in education is exploring the relationship between the ability to use feedback and students' personal characteristics, as well as various aspects of their learning activities, such as previous feedback experience [Panadero, Lipnevich, 2021], academic achievement in the subject [Brown et al., 2016; Kyaruzi et al., 2019; Panadero, Lipnevich, 2021], expectations [Panadero, Lipnevich, 2021; Malecka et al., 2022], self-assessment skills [Yan, Carless, 2022], motivation and goal orientation [Gao, Brown, 2023], self-assessment skills [van Loon, Roebers, 2017], as well as self-determination [Cate, 2013], self-regulation [Brown et al., 2016; van Loon, Roebers, 2017; Lim et al., 2021], and self-efficacy [Brown et al., 2016].

In recent years, researchers have paid special attention to agency as a necessary individual characteristic for taking action after receiving and processing feedback. It is believed that agency is necessary for students to seek, generate, and act on feedback [Harris et al., 2018; Neiminen et al., 2021]. Until recently, the process of working with feedback was described as closing the feedback loop with the help of the teacher: a student makes an assignment and receives feedback to use in another assignment. This approach keeps the student in constant dependence on the teacher or another source of feedback [Boud, Molloy, 2013]. The modern focus of education on active student engagement in their own learning process implies not waiting for feedback, but actively seeking it from teachers, peers, and other competent individuals, which requires proactivity from students [Boud, Molloy, 2013; Nicol, Kushwah, 2024].

Only recently have researchers begun to discuss the reverse effect: the ability to work with feedback based on agency. By successfully using feedback, students gain experience in intentionally and purposefully changing their outcomes, which gives them a sense of self-efficacy [Carless, 2024; Little et al., 2023], which is a prerequisite for agency [Bandura, 1996].

In Soviet and Russian pedagogical science, the topic of feedback has received insufficient attention. One reason for this is the tradition of considering the relationships between subjects in the process of education as a whole [Korenev, 2018]. As a result, the term "feedback" is rarely found in the didactic conceptual framework and is mainly used as a synonym of collecting

information from students about the quality of their knowledge acquisition [Kraevsky, Lerner, 1989; Osmolovskaya, 2021].

Interestingly, the ability to organize feedback is not included on the list of professional competencies of teachers in the professional standard "Teacher." It is almost never found in common textbooks for students of pedagogy [Podlasy, 2007; Slastenin, Isaev et al., 2007] and, accordingly, in teacher training programs. This leads to a significant deficit in domestic research on feedback at all levels of education, as well as a lack of teacher competencies necessary for organizing work with feedback. Without access to scientific information on feedback, some teachers try to use feedback models from business and marketing that they find on the internet in professional communities, which is not always applicable in the educational context. However, most teachers provide feedback without much thought and without applying feedback theories. One of the few empirical studies of feedback in Russian school education shows that although Russian teachers generally have a correct understanding of the purpose of feedback, its advantages and limitations, their focus is on pointing out students' mistakes rather than identifying areas for growth. Also, only a small proportion of teachers teach their students to use feedback to make decisions about subsequent actions [Azbel et al., 2022]. However, this study reflects teachers' perceptions of feedback and their work with it. To date, there has been no research on how Russian teachers actually give feedback in lessons and how students use it.

Another "blind spot" in Russian feedback research is students' perceptions and use of feedback. In Russian pedagogy and psychology, there are studies on the perception of assessment and grades by teachers and learners [Umnyasheva, 2006; Ignatieva, 2018], but they do not reflect how students understand and apply received comments on their academic results.

However, even without theoretical knowledge of feedback principles, Russian teachers, like any other educators, cannot avoid giving feedback to students during and after instruction. Even without special teacher efforts to teach students to understand and use comments, at least some students take into account the information provided by the teacher to improve their work in the future. Accordingly, it can be assumed that Russian students, like students from other countries, have the ability to work with received feedback, which is related to certain personal characteristics mentioned above, including agency.

Currently, in Russia, as in many other countries, agency is recognized as one of the key characteristics necessary for a modern person to succeed in the uncertainty and constant structural transformation. The value and particular relevance of agency for individuals and society in the current period of historical development has been repeatedly emphasized by both Russian [Sorokin, 2021; Dobryakova, Yurchenko, 2023; Polivanova, Bochaver, 2024; Sorokin, Redko, 2024] and foreign [Bandura, 2006; Varpanen, 2019; Hilppo, 2023] authors.

As noted above, students need agency to interact with feedback effectively. However, the ability to use feedback, in turn, may also contribute to the development of agency, as feedback researchers have recently begun to argue (after the start of our dissertation work in 2022) [Little et al., 2023; Carless, 2024]. Thus, there may be a bidirectional relationship between agency and feedback literacy as a multi-component construct, but studying the direction of this relationship is beyond the scope of our research.

The choice of the category "younger adolescents" is not accidental. The actual age boundaries of preadolescence and adolescence are defined differently by various researchers [Polivanova, 2001]. However, most agree that the transition from primary to secondary school marks a special crisis period in an individual's life, when a new social situation of development arises (according to Vygotsky), which is characterized by a need for autonomy [Polivanova, 2001]. According to Bozhovich, the adolescent crisis combines external obstacles from adults (prohibitions that limit a child's activity) and internal factors (habits and personality traits that prevent achieving the ideal model) [Bozhovich, 1997]. Elkonin and Dragunova describe this period through the concept of a "sense of adulthood"-the desire to behave like an adult [Elkonin, 2012]. The realization of adulthood occurs through the unity of responsibility and independence [Polivanova, 2001]. Thus, early adolescence can be characterized as a period of increased demand for independence, which some researchers interpret as a concept close to agency [Sorokin et al., 2022]. Agency and independence have significant similarities and important differences, primarily in terms of their relationship to structure [Polivanova, Bochaver, 2022]. But at the core of both is independent functioning-the very thing younger adolescents strive for. Deprivation of the desire for independence can lead to increased crisis manifestations [Polivanova, 2001].

By adolescence, students already possess some qualities and skills on which feedback literacy develops. Many are capable of self-assessment [Vorontsov, 2009], and by the time they go from primary to secondary school, children develop self-regulation related to planning, modeling, and evaluating the results of their activities [Morosanova et al., 2019].

In summary, feedback in education has an estimated potential for improving academic achievement and is associated with certain personal characteristics of students. Feedback literacy is proved to be related to students' motivation, engagement, self-efficacy, and self-regulation. Based on the reviewed research literature, we hypothesize a relationship between Russian younger adolescents' understanding of feedback and their agency. However, this hypothesis requires empirical verification.

The scientific problem lies in establishing the correlation between understanding of feedback and students' agency, as well as studying the nature of this relationship among younger adolescents in the Russian educational context, where teachers are generally not trained in

providing feedback. The formulation of the scientific problem determined the following research questions:

1. How can the construct of "feedback literacy" be placed within the Russian framework of literacies and competencies?
2. What feedback practices are used by teachers in contemporary Russian schools?
3. How do students perceive the feedback they receive from teachers?
4. Is there an association between young adolescents' understanding of feedback and their agency?

State of the Art

Feedback as information from a teacher to a student

In Russian pedagogical science, the topic of feedback has received and continues to receive insufficient attention. Although it was first mentioned in Soviet psychophysiology about 90 years ago [Bernstein, 1997], it has not been significantly developed in educational psychology or pedagogy. Vygotsky's sociocultural theory, from which Russian psychology grew, has gained wide recognition in Western science in the context of feedback [Shute, 2008, Tan et al., 2020, Carless, 2022], but not in Russia. This may be due to the tradition of considering the relationships between educational actors as a whole [Korenev, 2018].

In didactics, feedback is mainly viewed as information about the quality of knowledge acquisition, collected by the teacher [Kraevsky, Lerner, 1989, Osmolovskaya, 2021]. For example, when describing the theoretical foundations of the learning process, V.V. Kraevsky and I.Ya. Lerner include feedback in the didactic cycle as one of its elements, the purpose of which is to control and correct the teacher's actions. They also mention substantive comments from the teacher, which are "microtexts of the educational material presentation... adding new nuances of content and clarifying complex fragments" [Kraevsky, Lerner, 1989, p.155].

In I.M. Osmolovskaya's "Didactics," feedback is part of the structure of the learning process which is a way for the student to communicate to the teacher information about knowledge acquisition [Osmolovskaya, 2021]. Feedback from the teacher to students as a component of formative assessment has been mentioned in Russian pedagogy [Pinskaya, 2010], but until recently, it has not been deeply studied.

In A.L. Leontiev's activity theory, D.B. Elkonin and V.V. Davydov's theory of developmental learning, and P.Ya. Galperin's theory of stage-by-stage formation of mental actions, there is no direct mention of feedback in education, although it is often implied. Only in the works of P.Ya. Galperin's student N.F. Talyzina there was an attempt to describe feedback in education from the perspective of goals [Talyzina, 1998].

Contemporary Russian research on feedback [Maximenkova et al., 2014, Bessonov, 2016, Barabasheva, 2017, Korenev, 2018] is mostly theoretical and devoted to general issues of the significance of feedback. Only in recent years have the first empirical studies appeared, conducted among Russian teachers and students [Azbel et al., 2021, Azbel et al., 2023], as well as adults in the system of professional education [Podolskaya, Chepurnova, 2024]. These studies confirm a low level of awareness about feedback.

Thus, until recently, the conceptual corpus of Russian pedagogy practically did not include the term "feedback" to refer to information about students' current or planned results. Providing feedback is not included in professional competencies of teachers reflected in the professional standard "Teacher". It is almost impossible to find it in popular textbooks for students of pedagogical specialties [Podlasy, 2007, Slastenin, Isaev et al., 2007] and, accordingly, in teacher training programs. As a result, there is currently a significant deficit of Russian research on feedback at all levels of education, as well as a lack of teacher competencies necessary to organize work with feedback.

Another "blind spot" in the study of feedback in Russian science is its perception and use by students. There are some studies on the perception of assessment and grades in Russian pedagogy and psychology [Umnyasheva, 2006, Ignatieva, 2018], but they do not describe how students understand and use comments on their academic results.

In Western educational sciences, it is common to break down complex concepts into components, so feedback as part of the educational process has been studied for several decades. During this time, the concept has been conceptualized; types, goals, effects, and conditions for organizing feedback in various educational contexts have been identified. A large amount of data has also proved the importance of feedback for achieving educational outcomes.

It is important to note that most researchers pay attention to two opposing directions of feedback. One goes from the teacher to the students (or their parents) and reports the results of assignments or learning in general; the other, on the contrary, goes from the students to the teacher, for the teacher to draw conclusions about the effectiveness of the learning process, the correctness of the strategies used, etc. [Korenev, 2018]. Both types of feedback are important for the learning process [Hattie, 2017]; however, when discussing the typology and characteristics of feedback, the first type (from teacher to students/parents) is usually considered.

According to a meta-analysis based on a large dataset and published by J. Hattie & H. Timperley in 2007, feedback has one of the largest effect sizes among factors which make an impact on students' achievement (average d=0.75, which is about twice the average effect size of most other factors) [Hattie, Timperley, 2007]. After numerous critical remarks regarding Hattie's research methodology, it was reproduced on a dataset cleansed of duplicates and using a refined

data analysis method [Wisniewski et al., 2020]. The new study showed that although the average feedback effect decreased (d=0.48), this rather indicates data heterogeneity.

Over the years of studying feedback, various models have been created. The most popular one is the model by J. Hattie & H. Timperley, which describes four levels of feedback from teacher to students depending on what it targets: feedback at the task level (indicating correctness/incorrectness of the answer), feedback at the process level (whether the student chose the right strategy), feedback at the self-regulation level (primarily aimed at developing self-regulation skills and maintaining motivation), and feedback at the self level (giving a general assessment of the student and/or their work, e.g., "Well done" or "Try harder"). According to the authors, for maximum effectiveness, feedback should be given mainly at the process or self-regulation level [Hattie, Timperley, 2007].

In Western educational sciences, the topic of feedback has been thoroughly explored in terms of definitions, goals, functions, classifications, and conditions for effectiveness. Further research on feedback in education focuses on how feedback is perceived by teachers and learners, and their characteristics for feedback uptake.

Student Characteristics Necessary for Working with Feedback

In 2018, Carless and Boud described a theoretical model of the learner, which they called "feedback literate." Building on the ideas of Sutton, who first introduced the term feedback literacy into scientific discourse [Sutton, 2012], they proposed their own definition: "understandings, capacities and dispositions needed to make sense of information and use it to enhance work or learning strategies" [Carless, Boud, 2018, p.1316]. The Carless and Boud model includes four characteristics that, in the authors' opinion, are inherent to people with developed feedback literacy:

- Appreciating feedback process;
- Making judgments;
- Managing affect;
- Taking action.

In this model, the first three characteristics are interconnected and together increase the likelihood of the last one, which is key.

The identified characteristics are close to the concept of "understanding" as described by Shadrikov [Shadrikov, 2021]. According to Shadrikov, understanding in education has three essential characteristics: it is always considered in connection with the subject (the subject understands, and understanding requires a subject); understanding is achieved in action, that is, it

is both a process and a result; there can be no understanding without acquiring knowledge. Interaction with feedback also presupposes subjectivity (understanding the importance of feedback and, as a key consequence, forming a request for it cannot exist without subjectivity). The concept of "student feedback literacy" by Carless & Boud has much in common with Shadrikov's general concept of understanding but contains an additional component "managing affect." This additional component is found in the foreign model of understanding (UbD Understanding by Design). In this model, the concept of "understanding" consists of six facets, which are revealed through skills: to understand means to be able to explain, interpret, apply, see perspective, empathize, and reflect [Wiggins, McTighe, 2005, Kuznetsov, Chernobay, 2021]

Later, one of the authors of the student feedback literacy conception with their colleagues created a learning-centered framework for feedback literacy, based on empirical data. Data collected using both qualitative and quantitative methods allowed the identification of 31 characteristics of learners who can be considered feedback literate. These characteristics were classified into 7 groups [Molloy, Boud, Henderson, 2020]:

- Commits to feedback as improvement;
- Appreciates feedback as an active process;
- Elicits information to improve learning;
- Processes feedback information;
- Acknowledges and works with emotions;
- Acknowledges feedback as a reciprocal process ;
- Enacts outcomes of processing of feedback information.

Thus, the most relevant and developed models in educational sciences today are the feedback models of Hattie and Timperley (2007) and Carless and Boud (2018), with the latter further developed by Molloy, Boud, and Henderson (2020). The first (Hattie and Timperley) relates to the content of feedback and presents different levels at which feedback can be given. The second model (Molloy, Boud, and Henderson) focuses on the characteristics of the learner necessary for interaction with feedback to be most effective.

Teacher Characteristics Necessary for Providing Beneficial Feedback

Another area of research in feedback is the characteristics teachers need to provide feedback that is as beneficial as possible for students in terms of achieving educational outcomes. As with student characteristics, different groups of researchers work in different directions. For more than ten years, teachers' perceptions of assessment and feedback have been studied, as it is

believed that teachers' concepts directly influence students' concepts and, accordingly, their actions regarding feedback [Brown, 2008, Brown, 2024].

In recent years, several theoretical models of teacher feedback literacy have been developed (in line with student feedback literacy, we propose calling it a teacher's ability to work with feedback rather than "literacy"). The two most notable are the model proposed by Carless and Winstone [Carless, Winstone, 2020] and the model proposed by Boud and Dawson [Boud, Dawson, 2021]. The first consists of three components: design dimension (the ability to optimally integrate feedback into the learning process), relational dimension (the ability to take into account the emotional state and self-esteem of those receiving feedback), and pragmatic dimension (the ability to relate the value of feedback to other characteristics of the learning process, such as the time required for preparation).

The second model is based on empirical data and classifies all identified teacher competencies in working with feedback at one of three levels: macro (strategic planning and resource use), meso (organization of routine feedback), and micro (consideration of individual needs of specific students) [Boud, Dawson, 2021].

No research has yet been conducted on the feedback skills of Russian teachers. However, Azbel and colleagues conducted a study of teachers' perceptions of feedback, which showedthat teachers generally have correct understanding of feedback goals, but there is also a discrepancy between teachers' views on the purpose of the feedback they provide and students' views on the feedback they receive and its purpose [Azbel et al., 2022].

However, we have not found empirical studies on the feedback practices used by teachers in class.

Current Views on Children Agency

Although agency is recognized as one of the most important characteristics of a person in today's rapidly changing world, there is still no unified approach to its conceptualization in the international science. The scientific mainstream asserts the primacy of structures within which an individual performs agentic actions; however, some researchers, in particular P.S. Sorokin, point out that individual agency which shapes social institutions is now coming to the fore [Sorokin, Mironenko, 2025].

A distinctive feature of agency, as opposed to, for example, independence, is not simple adaptation to the existing situation, but the transformation of the given structure [Polivanova, Bochaver, 2024], which requires intentionality and the orientation of action towards change [Dobryakova, Yurchenko, 2023].

The scientific community does not agree on the definition of indicators of agency, nor on whether children's agency can be considered a separate phenomenon, apart from general "adult" concepts of agency.

Now we will consider the most popular current approaches to defining children's agency.

Much attention is paid to children's agency within the framework of sociocultural theory. From the perspective of its followers, agency does not appear out of nowhere; opportunities for the manifestation of agency arise in society and are conditioned by culture [Varpanen et al., 2019], and one of the purposes of the education system is to provide children with an environment which supports the manifestation and development of agency [Matyushkina, 2019].

Proponents of the "New Childhood Sociology" take a different approach to children's agency. They argue that childhood should be seen as a separate social structure with its own culture and social connections. One of the main tenets of this concept relates to children's agency: "children should be actively seen in the constitution and determination of the lives around them, the societies they live in, and their own social lives" [Kurt, 2022, p.732]. One important manifestation of children's agency, according to the followers of the New Sociology of Childhood, is the expression of voice, that is, the verbalization of their interests in communication with adults and peers, leading to changes in their circumstances [Baraldi, 2022]. As Baraldi notes, "Agency can be defined as a specific form of active participation that enhances unpredictability … Children's actions can only be unpredictable in communication processes" [Baraldi, 2022, p.22].

In the educational context, children's agency is seen as agentic engagement in the learning process [Reeve, Tseng, 2011; Mameli, Passini, 2016]. Children perform their agentic engagement primarily through the verbalization of their requests to the teacher.

Contemporary Russian researchers use the concept of agency with respect to childhood, distinguishing it from autonomy/independence as synonymous concepts (Dobryakova & Yurchenko; Polivanova & Bochaver), as well as from independence and volitional action (Polivanova, Bochaver). A distinctive feature of children's agency is the opportunity for a trial action without major consequences, for example, in a game or while making projects [Polivanova, Bochaver, 2024]. However, according to both groups of authors, the contemporary educational system generally does not foster the development of children's agency.

As mentioned above, to date, there are neither common approaches to the conceptualization of agency nor agreements regarding the factors of agentic behavior (in this study, factors are understood broadly, as conditions or driving forces of agentic behavior). Different researchers propose various factors, such as influencing one's own educational trajectory [OECD, 2018], engagement in extracurricular activities [Goshin et al., 2024], the creation of communities, including online groups [Goshin et al., 2022], active participation in teamwork [Obukhov, 2024],

maintaining one's intrinsic motivation [Matusov, 2016], participation in academic discussions [Clarke et al., 2016; Matusov, 2016], proactive involvement in establishing rules [Goshin et al., 2022], and active transformative engagement in learning activities [Mameli, Passini, 2016].

Within the framework of our study, agency will be considered in a narrow sense - as performing a proactive action in the learning context, due to the difficulty of observing the effects of agency outside the classroom.

Theoretical Rationale for the Relationship Between Feedback Literacy and Student Agency

The concept of feedback literacy is based on the assumption of learners' active engagement with the information they receive [Sutton, 2012]. In the feedback literacy model proposed by Carless and Boud, the most significant component is taking action based on the comments received [Carless, Boud, 2018]. Such action often requires going beyond boundaries, including seeking out information to bridge the gap between existing and desired knowledge or skills. Modern educational approaches place the learner at the center of the educational process; accordingly, students' role change from being passive recipients of feedback, dependent on its provider, to becoming agents of their own learning, who seek out feedback and actively request it from various sources [Boud, Molloy, 2013]. Only a deep understanding of the substantial role of student agency in the feedback process can change the current gap between the potential of feedback to improve educational outcomes and the actual situation [Neiminen et al., 2021].

There are emerging studies that assert an association between students' ability to work with feedback and their agency. These works claim that not only is agency a factor in the ability to use feedback, but conversely, feedback literacy also influences agency [Little et al., 2023; Carless, 2024]. However, there is still insufficient empirical evidence to support this assumption.

Most studies on the relationship between feedback literacy and other variables have been conducted among adult students. Our research focuses on examining this relationship in the "early adolescents" category, as this is a favorable age for the development of agency: at this stage a child faces a new developmental situation characterized by the need for autonomy and the realization of an "adult identity" through taking responsibility for their actions and independence [Polivanova, 2001]. Students of this age (grades 5–7) already possess some of the necessary characteristics on which feedback literacy can be built, in particular, self-regulation and the ability to assess their work [Vorontsov, 2009; Morosanova et al., 2019]. No studies among students of this age have been conducted in Russia and, to our knowledge, worldwide.

To summarize, feedback is a tool for improving learning outcomes with established effectiveness, if it is properly organized. Existing international studies show that students' ability

to use feedback is associated with their self-efficacy, self-regulation, engagement in learning, academic motivation, and some other characteristics. There are theoretical studies asserting the importance of student agency for working with feedback: the construct of "feedback literacy" includes the component of "taking action," which presupposes a proactive engagement on the part of the learner [Sutton, 2012]. Only recently have studies begun to appear claiming that understanding feedback makes an impact on agency [Little et al., 2023; Carless, 2024]. However, the association between this understanding of feedback and students' agentic engagement in the learning process has not yet been studied in Russia, and abroad it has mainly been examined among adult students.

Based on the analysis of existing (both domestic and foreign) studies, we developed the research framework and proposed hypotheses.

Research Aim and Objectives

The **object** of the study is feedback in the educational context.

The **subject** of the study is the association between young adolescents' understanding of feedback and their agency.

The **aim of the research** is to establish correlation between understanding of feedback and students' agency, as well as investigate the nature of this relationship among younger adolescents in the Russian educational context, where teachers are generally not trained in providing feedback.

Research Objectives:

1. To analyze existing studies on feedback and student agency.
2. To determine the position of the concept "feedback literacy" within the framework of literacies and competencies accepted in Russian educational sciences.
3. To analyze existing inventories for assessing the level of agency and feedback literacy.
4. To carry out an ethnographic study aimed at identifying current teacher practices in providing feedback.
5. To develop ат inventory for assessing the level of feedback literacy, to validate its psychometric properties, and to identify the level of feedback literacy among early adolescents.
6. To select an inventory for assessing the agency of schoolchildren and to conduct a study of agency among early adolescents.
7. To perform a correlational analysis and examine the association between feedback literacy and agency in early adolescents.
8. To develop the curriculum content for the Masters' discipline "Assessment and Feedback in Education."

Proposed Hypotheses:

1. The concept of "feedback literacy" cannot be classified as literacies according to the established in Russia framework of literacies and competencies, but rather belongs to a separately distinguished set of constructs referred to as "skills."
2. Russian teachers who took part in the study provide students with feedback that does not contribute to the improvement of their academic performance.
3. Russian students who took part in the study do not perceive teacher feedback as information that helps them improve their educational outcomes.
4. Students who understand feedback demonstrate a higher level of agency.

Theoretical Framework of the Study

In this study we will consider the ability to work with feedback from the perspective of the concept of understanding. Shadrikov examines understanding in education through the lens of a subject–subject approach: on the one hand, the teacher seeks to convey certain information to students, but students, in turn, are not objects but subjects of activity: "understanding is always embedded in activity and is achieved through activity and behavior" [Shadrikov, 2021, p. 103]. Applied to feedback, this can be interpreted as follows: a student demonstrates understanding of feedback when they are able to take an action upon it, using it to bridge the gap between their current and desired knowledge or skill. Understanding is closely linked to knowledge acquisition, that is, it presupposes the mastery of subject content [Shadrikov, 2021].

In international literature, understanding is also given a significant place; it is the basis of the widely used instructional design model UbD (Understanding by Design) [Kuznetsov, Chernobai, 2021]. Here, understanding is viewed from six perspectives, or facets: explanation, interpretation, application, perspective, empathy, and self-knowledge. Accordingly, to understand feedback means to be aware of the boundaries of one's ignorance and to recognize one's deficits, to be able to explain and interpret the content of received comments, to determine from whose perspective they are given and what significance this might have, to be able to put oneself in the position of the feedback provider and see the situation through their eyes, and most importantly, to be able to apply the feedback received [Wiggins, McTighe, 2005].

Feedback in education has been mainly studied abroad. There are a number of conceptually different approaches to this phenomenon [Kluger, DeNisi, 1996; Hattie, Timperley, 2007; Shute, 2008; Panadero, Lipnevich, 2022]. In this study, we based on the definition and classification of feedback proposed by Hattie and Timperley. According to their approach, feedback is information provided by an agent (e.g., a teacher, parent, peer, oneself, a book, or accumulated experience)

regarding aspects of someone's understanding or performance [Hattie, Timperley, 2007]. Initially, this study planned to use a narrower definition by Carless & Boud: "Feedback is a process through which learners make sense of information from various sources and use it to enhance their learning and develop new strategies" [Carless, Boud, 2018]. However, during data collection, it became clear that this definition might not yield sufficient data for analysis, so we decided to interpret feedback as any information related to the learning process.

Hattie and Timperley also proposed a classification of feedback into four levels, depending on its focus. The first level is feedback about the task. It refers to information concerning aspects of completing a specific task. This may include statements about correctness/incorrectness, as well as information that helps correct an error, for example, what needs to be done for the task to be completed correctly. The second level is the feedback about the processing of the task. It focuses not on the answer itself, but on the process leading to the correct answer. Through such feedback, the teacher helps the student identify their mistakes and develop problem-solving strategies. Receiving feedback at this level teaches learners to analyze information and see relationships between concepts; therefore, this kind of feedback contributes to a deeper understanding of the material compared to feedback about the task level [Hattie, 2021]. The third level is feedback about self-regulation level, which aims to develop students' self-regulation skills, the ability to set goals, and monitor their achievement. This also includes feedback that increases students' motivation and self-confidence. Finally, the fourth level – feedback about the self as a person - consists of evaluative comments of a predominantly personal nature ("Well done" or "Good job"), as well as comments on the student's effort ("You are trying hard"). The low (and in some cases negative) effect of such feedback is due to its lack of useful `information; thus, feedback at this level should be avoided. At the same time, it is believed that the most beneficial feedback for students is provided at the process and self-regulation levels, as this information can be applied to other tasks and thus helps students learn. The most common type of feedback in the learning process is at the task level [Hattie, Timperley, 2007; Hattie, 2017; Hattie, 2021]. This classification was chosen among many others because it most accurately fit the explanation of the data collected during the ethnographic study.

A popular assumption is that content and organizational aspects of feedback are not the only factors making an impact on educational outcomes. Not less important are the actions students take upon the feedback they receive [Kluger, DeNisi, 1996; Sutton, 2012; Carless, Boud, 2018]. Students' readiness to engage with feedback depends on their conceptions-the beliefs and notions that individuals develop over their lives, which form the basis for perceiving, responding to, and interacting with a given phenomenon [Brown, 2004]. Students may have different conceptions of assessment and feedback; for example, they may see assessment as a measure of their abilities and

achievements, as a way to highlight their current deficits for subsequent improvement, as simply an enjoyable process, or conversely, as irrelevant [Brown, Hirschfeld, 2008]. For interaction with assessment results and feedback to be fruitful for the student, it is important that they share the conception of assessment as identifying the gap between the current and desired result, so that they can then work on closing this gap [Brown, Hirschfeld, 2008; Brown, 2011]. This conception was used in the analysis of student work products (drawings) and focus group data, as it helped describe students' perceptions of assessment and feedback.

A student's use of feedback has been conceptualized by Carless and Boud. They created a theoretical model consisting of four characteristics or factors that a student must possess to be considered skilled in this area. These are: understanding the importance, value, and role of feedback for improving educational outcomes (appreciating feedback process); the ability to make judgments about one's own and others' work, related to understanding feedback criteria and language (making judgements); the ability to manage one's affective reactions and avoid defensiveness when receiving negative feedback (managing affect); and the ability to act on and use received feedback to improve future performance (taking action) [Carless, Boud, 2018]. Based on this theoretical model and their empirical research Molloy, Boud, and Henderson developed an extended model called the 'Learning-centered framework for feedback literacy.' It includes 31 student characteristics grouped into seven categories: 1) Appreciates feedback as an active process; 2) Elicits information to improve learning; 3) Processes feedback information; 4) Acknowledges and works with emotions; 5) Acknowledges feedback as a reciprocal process; 6) Enacts outcomes of processing of feedback information 7) Commits to feedback as improvement [Molloy, Boud, Henderson, 2020]. This concept formed the basis for the construction of the Feedback Literacy Skills Scale questionnaire.

Agency, in the broad sense, is understood as "an individual's capacity to act, exercise control over their life, set and achieve goals, proactively influence the environment and social structures, including transforming existing ones and creating new forms of interaction in public life" [Goshin, Sorokin, 2024, p. 106]. In the context of this study, we use the definition of agency proposed in the OECD report 'The Future of Education and Skills: Education 2030': agency as a sense of responsibility for one's lifelong education, manifested in influencing people, events, and circumstances to improve one's situation, and requiring clear and purposeful actions [OECD, 2018]. We define agency in a narrower sense, applicable to school students, as the ability to take proactive actions in the process of learning that go beyond what is prescribed by the teacher, in order to improve the situation for oneself and others.

As indicators of agentic behavior in early adolescents, we will consider demonstrations of initiative in areas traditionally controlled by the teacher, as well as "voice"-expressing ideas and

suggestions beyond what is expected by society [Mameli, Passini, 2019], as these are the most noticeable manifestations of agency in the context of school education.

Research Methods

1. Qualitative Methods:

- Ethnographic study [Angrosino, 2007];
- Semi-structured interviews;
- Projective methods (analysis of students' drawings);
- Focus groups**.**

Data analysis methods:

- Thematic analysis [Newby, 2014; Aleksandrova et al., 2023; Strauss & Corbin, 1998].

2. Quantitative Methods:

- Survey using the author-developed Feedback Literacy Skills Scale**;**
- Survey using the Agentic Engagement Scale [Mameli, Passini, 2019], adapted into Russian by P. Gavrilenko.

Data analysis methods:

- Content analysis [Smith, 2000; Harris et al., 2014];
- Factor structure analysis of the questionnaires using Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). The method of Structural Equation Modeling (SEM) and the trimming procedure were used to improve the model.
- Correlation matrix to establish the association between the scales and the subscales of the constructs.

Research Design

1. In order to answer the research question "How can the construct of "feedback literacy" be placed within the Russian framework of literacies and competencies?" we analyzed Russian and international research and expert literature on literacies and competencies.
2. In order to address the research question "What feedback practices are used by teachers in contemporary Russian schools?" we did an ethnographic research**.** The ethnographic method allows for the description of the characteristics of behavior, relationships, and interactions of people in their natural environment [Angrosino, 2007; Cohen et al., 2002]. The choice of ethnography as a research method was also due to the lack of similar studies conducted on Russian samples. Feedback interaction practices dependent on cultural context as well as other factors [Chong, 2022; Gravett, 2022], so we could not rely on existing international theoretical frameworks in order not to overlook practices that are specific to Russia. The data obtained through the ethnographic study (video material) were

transcribed and analyzed using thematic and content analysis [Smith, 2000; Strauss & Corbin, 1998; Newby, 2014].

3. In order to answer the research question "How do students perceive the feedback they receive from teachers?", we conducted a three-stage study using both qualitative and quantitative methods. At the first stage, we held a brief conversation with the participants to help them understand the concept of "feedback."
   At the second stage, the participants were asked to draw a picture of a situation of assessment and feedback as they imagine it. This technique is a projective research method widely used in psychodiagnostics. The advantages of this method include the opportunity for respondents to express complex and difficult-to-articulate thoughts and feelings, especially those that are hard to convey verbally [Harris, Brown, 2014]; respondents project their thoughts and feelings into the situation [Yadov, 2000]. Another advantage of the picture method is that, unlike interviews and focus groups, it allows respondents to express their thoughts and feelings independently of previously voiced opinions (since everyone draws simultaneously), and without the restrictions of predetermined answer options, as is typical of survey methods [Brown, Wang, 2011]. Content analysis was then applied [Smith, 2000]: the identified units were counted and categorized according to a pre-existing coding table [Harris, Brown, 2014], after which a chi-square test was conducted to determine statistically significant relationships between codes.
   At the third stage, a discussion of the drawings (focus groups) was organized: immediately after the drawing process, participants were asked to individually comment on their drawing. An important application of the focus group method in our study is the interpretation of results obtained through picture methods [Folomeeva, 2003; Harris, Brown, 2014]. The simultaneous use of two methods (pictures and focus groups) allows for data triangulation and complements the data obtained by either method [Harris, Brown, 2009]. The data obtained from the focus groups were transcribed and subjected to thematic [Strauss & Corbin, 1998] and content analysis [Smith, 2000].
4. To answer the research question "Is there an association between young adolescents' understanding of feedback and their agency?", quantitative data analysis methods were used.
   To determine the level of feedback literacy, we developed an original inventory "the Feedback Literacy Skills Scale" (based on the feedback literacy model by Molloy, Boud, Henderson [Molloy et al., 2020]). To assess the quality of the model, confirmatory factor analysis (CFA) using the maximum likelihood method was employed. The following parameters were used as benchmarks: CFI > 0.90, TLI > 0.90, RMSEA < 0.05 [Roos,

Bauldry, 2021]. The final Feedback Literacy Skills Scale contains 12 statements grouped into two subscales: “use of feedback” and “perception of feedback as a social act”. Only statements with significant factor loadings ($\beta > 0.30$, $p < 0.05$) were included in the model. A significant positive correlation was found between the questionnaire’s subscales ($\beta = 0.63, p<0.01$).

The scale demonstrated acceptable internal consistency with a Cronbach’s alpha of $\alpha=0.798$.

To assess students’ agency, the Agentic Engagement Scale [Mameli, Passini, 2019], adapted into Russian and demonstrating acceptable psychometric properties (CFI = 0.93, TLI = 0.95, RMSEA = 0.06, $p < 0.01$) and a positive correlation between its subscales, was used.

To examine the correlation between feedback literacy and agency among students, a correlation matrix was constructed for both the scales and their subscales. Spearman’s rho was used as the correlation coefficient, since the correlation was calculated between factor scores.

Sample of the Study

Nineteen teachers from three schools located in three cities in the European part of Russia participated in the study of teachers’ feedback practices. The schools were situated in a small town (population up to 15,000), a large city (a regional center with a population up to 250,000), and a major city (a regional center with a population up to 500,000). All schools were state, comprehensive non-selective schools without specialization in-depth study of particular subjects. The selection of schools was based on the principals’ consent to participate in the study. Our declared aim was “studying effective classroom practices.” One of the schools had previously been a pilot site for formative assessment. Teachers in each school were selected by the principal, with a prior request from the researcher to include only experienced and effective teachers who had developed their own teaching approaches and practices over the years. However, this request was not fulfilled by all principals, so the sample included both experienced and novice teachers.

The distribution of teachers was as follows: by gender (18 women, 1 man); by teaching experience (2 teachers with less than 5 years, 1 teacher with over 30 years, the rest between 5 and 30 years); and by subjects taught: Russian language, literature, mathematics, physics, foreign language (English), history, biology, geography, social studies, music, and physical education.

A total of 54 lessons were observed, conducted in grades 5 to 7. The choice of this age group was determined by the objectives of the study.

In the study on students’ perception of feedback, participants were pupils from two schools whose teachers had taken part in the first study. These students were from classes whose lessons

were recorded and analyzed. The sample consisted of 72 students from grades 5 to 7 (43 girls, 29 boys, aged 10–14 years, mean age = 12.5, SD = 0.88; 25 fifth graders, 17 sixth graders, 30 seventh graders). All were selected by the school administration. Respondents were organized into nine groups of 8–10 students each. Four drawings were excluded from the final analysis because their content did not correspond to the assigned topic, and during the focus groups, students were unable to explain how the drawings related to assessment and feedback. Thus, 68 drawings were included in the analysis, but all 72 students participated in the focus groups.

The sample for the final part of the study (examining the relationship between feedback literacy and agency) consisted of 359 students from grades 5 to 7 (171 boys and 188 girls), aged 10 to 14 years (mean age = 12.5). Some of these students had participated in the first two stages. All respondents live in urban settlements of varying sizes (from small towns to metropolitan areas) located in the European part of Russia. All students attend state general education schools.

Parents of all participating children signed informed consent forms for their children's participation in the study.

Main Results of the Study

1. **The Research Question "How can the construct of "feedback literacy" be placed within the Russian framework of literacies and competencies**?"

We addressed this question by analyzing research literature on literacies and competencies. We found a contradiction between how the concept of "feedback literacy" is described by Carless and Boud, who conceptualized this construct [Carless, Boud, 2018], and how literacies are understood within the expert framework widely accepted in Russia, proposed by Dobryakova and colleagues [Dobryakova et al., 2020].

The literature analysis allowed us to challenge the classification of the studied construct as a literacy, as is common in the international discourse, and to show that according to the framework of literacies and competencies adopted in Russia [Zimnya, 2003; Dobryakova et al., 2020], it belongs to skills.

Carless and Boud propose to consider the construct "feedback literacy" as consisting of four components:

1. Appreciating feedback process;
2. Making judgments;
3. Managing affect;
4. Taking action.

In Russian tradition, literacy is understood as "the ability to communicate with the world, understand its signals, process information," implying "action mediated by language (as a tool of communication), in written or oral form" [Dobryakova et al., 2020, p. 38].

Working with feedback is neither an instrumental nor a domain-specific literacy within the Russian approach to literacies and competencies [Dobryakova et al., 2020], since this skill goes beyond any particular subject area and is broader than the ability to use semiotic systems for communication.

It cannot be attributed to any one group of competencies (thinking or reasoning competence, interaction "with self" (intrapersonal competence) , and of interaction with other people (interpersonal competence), because working with feedback involves all these competencies for understanding, interpreting, and creating feedback: thinking and reasoning competence (in particular, the ability to understand and analyze information, identify patterns, establish cause-effect relationships, classify factors, identify implicit properties of processes, generate ideas, etc.), competence of interaction "with self" (the ability to understand and control one's emotions, plan actions, choose and change strategies, mobilize oneself for action, self-regulation etc.), and competence of interaction with other people (the ability to establish and maintain social connections, persuade others, understand and consider others' emotions, etc.). Thus, working with feedback implies the development of all universal competencies and cannot be reduced to any of them.

Among the components of the "feedback literacy" construct there is also work with emotions and certain value attitudes (in particular, appreciating the received information for closing knowledge or skill gaps).

Not fitting the definitions of either literacies or competencies, the concept of "feedback literacy" can be attributed to separately standing constructs that reflect a person's attitude toward a situation and the way people choose to act in this situation. It consists of elements of universal competencies activated in a particular sequence depending on the situation. Skills such as problem-solving, learning to learn, and decision-making are classified similarly.

Thus, we propose to translate the term "feedback literacy" into Russian as **"**умение работать с обратной связью" ("the ability to work with feedback"). Like any other skill, it can be quantitatively measured and influenced through targeted interventions aimed at development.

Components of this construct can be seen in Table 1. Following Dobryakova, we structured the components of feedback literacy according to the main stages of activity, as described in the research literature in relation to other skills ("learning skills" and "problem-solving skills"): planning (stage 1), execution (stage 2), reflection (stage 3). When compiling the elements that form universal competencies, we also relied on the components proposed by Dobryakova, as they are based on authoritative theories and approaches [Dobryakova et al., 2020]. Opportunities for performing student agency are highlighted in bold.

Table 1. Feedback literacy construct components.

	Stage 1. Situation Assessment and Goal Setting	Stage 2. Execution	Stage 3. Evaluation
Key Competencies			
Critical Thinking	Understanding, analyzing, interpreting received feedback; identifying patterns; noting the gap between current and desired states; identifying implicit properties of objects and processes; constructing cause-effect chains; classifying primary and secondary factors; searching for contradictions and similarities in the information received.	**Determining tools to close the gap between existing and desired knowledge/skills; searching for necessary information**; evaluating information reliability; comparing different solution options; **formulating final goals**, **intermediate steps, and success criteria**.	Comparison of intermediate and final results with the model, generation of internal feedback, setting new goals (self-regulation).
Creative Thinking	Building connections between new and previously received feedback.	**Turning to various, including non-obvious, sources of feedback; proposing non-trivial ideas to close the gap between current and desired knowledge/skills; adapting actions to changing circumstances.**	Transfer of feedback information to a broader context
Interaction with other people	Adequate expression and perception of interlocutor's thoughts, emotions, and judgments.	When providing feedback: adapting to the emotional state, interests, and motives of the interlocutor; when receiving feedback: respectful attitude toward the feedback giver, treating feedback as interaction, active participation in evaluating others' work.	Evaluation of the effectiveness of feedback from the perspective of interaction with others.
Interaction "with Self"	Recognizing one's emotions, their causes and consequences; ability to formulate	Controlling one's emotions during feedback reception (self-control);	Evaluation of one's satisfaction with the outcome of working with feedback

	Stage 1. Situation Assessment and Goal Setting	Stage 2. Execution	Stage 3. Evaluation
	short- and long-term goals; prioritizing and adjusting priorities (self-organization).	demonstrating trust and openness in giving and receiving feedback; avoiding a defensive stance when receiving negative feedback; proactive attitude in seeking suggestions and advice from others.	
Literacies and Attitudes			
Universal Instrumental Literacy	Perceiving verbal and non-verbal feedback as an informational signal; identifying the main idea in feedback; structuring received information; choosing methods for organizing and recording feedback.	**Using symbolic systems as tools for communicating feedback; using information resources to generate feedback;** ability to consider information from another person's perspective; expressing ideas in various ways and formats; **using technologies to store feedback.**	Evaluation of the chosen feedback format and method of information storage.
Values	Understanding the value and role of feedback in achieving results when receiving and providing feedback.	Ability to keep the importance of feedback in focus during the feedback process.	Understanding the importance of improving one's skills in working with feedback.

Subject knowledge is of great importance when working with feedback. Without it, it is impossible to use the information received. The ability to work with feedback combined with subject knowledge constitutes the construct of "understanding feedback," which is considered in this study.

2. **The Research Question "What feedback practices are used by teachers in contemporary Russian schools?"**

The answer to this question made it possible to analyze the prerequisites for the development of students' feedback literacy.

The video material obtained during lesson observations was transcribed, and all elements that could be classified as teacher feedback in the "broad" sense (that is, any comments on students' statements and actions) were identified. We had to abandon our initial plan to consider only comments that help answer the questions "Where is the student now?", "What is the student's goal?", and "What needs to be done to close the gap between the current and desired state?" (the "narrow" approach to feedback). This was due to the risk of not collecting enough data for the study. A thematic analysis was then carried out. Even during observation and transcription, major thematic blocks began to emerge, such as "feedback on the correct answer" or "feedback on behavior". This approach is permissible in ethnographic research [Polukhina, 2023]. Initially, we identified 20 themes; however, after merging closely related, sparsely populated themes, 16 remained: "confirmation of correct answer," "reaction to error," "organization," "prompting an answer," "clarification, generalization, and transfer of knowledge," "guidance towards an answer and hints," "strategy," "process," "development of self-reflection," "justification of assessment and teaching peer-assessment," "I hear you," "motivation," "praise," "absence of feedback," "self-regulation," and "learning strategies." The themes and their frequencies can be seen in Table 2.

Table 2. Themes and their frequencies.

Theme	N of elements	% of Feedback Total
Confirmation of correctness	1205	39,3
Reaction to error	414	13,5
Guidance towards answer and hints	394	12,8
Organization	350	11,4
Prompting an answer	284	9,2
Praise	123	4
Motivation	66	2,1
Development of self-reflection	42	1,3
Process	41	1,3
Clarification and summarizing of knowledge	38	1,2
No feedback	37	1,2
Self-regulation	22	0,7
Grade explanation and teaching to peer-assess	21	0,7
‘I hear you’	16	0,5
Learning strategies	5	0,16
Transfer of knowledge	2	0,06
Total	*3060*	*99,42*

Theme	N of elements	% of Feedback Total

We excluded the themes "organization," "prompting an answer," and "I hear you" from further analysis, because they are not associated with learning outcomes. The feedback included in the analysis consisted of 2,410 units grouped into 13 themes. To clarify and triangulate the obtained data, interviews were conducted with 8 teachers who participated in the study.

Next, the identified themes were mapped onto the classification of feedback levels proposed by Hattie and Timperley [Hattie, Timperley, 2007], as reflected in Table 3.

Table 3. Mapping of feedback themes to Hattie & Timperley's levels of feedback

Hattie & Timperley's level of feedback	Feedback theme
Task level	Confirmation of correctness
	Reaction to error
	Guidance towards answer and hints
	No feedback
	Prompting an answer
Process level	Process
	Transfer of knowledge
	Learning Strategies
Self-regulation level	Motivation
	Development of self-regulation
	Grade explanation and teaching to peer-assess
	Self-reflection
Self level	Praise

Feedback related to confirmation of correct answers, reaction to errors, clarification and summarization of knowledge, guidance toward an answer, as well as praise (i.e., feedback at the task and self levels according to Hattie & Timperley) was classified as "situational" feedback, since such feedback pertains only to the specific situation and does not provide information that students can apply in other contexts. Feedback that we identified as process, knowledge transfer, learning strategies, motivation, development of self-reflection, self-regulation, as well as justification of assessment and peer-assessment training was classified as "transferable" feedback, because students can use it beyond the immediate situation.

It is noteworthy that in almost all observed lessons during the study, teacher confirmation of the student's answer predominated, often expressed by repeating the student's response ("echo"), as illustrated by the following example:

Teacher: Tell me, how many boys did the hunter see when he approached the campfire?

Student: Five.

Teacher: Five, there were five boys. What were the boys doing? (we already said)

Student: Watching the horses.

Teacher: Watching the horses. Now each boy will be introduced separately. So, let's pause. What is the name of the first boy?

Student: Fedya.

Teacher: Fedya. So, write the name of the first boy in the table.
(Literature lesson, Grade 6)

The study showed that participating teachers do not reflect on their feedback practices and lack a clear understanding of the nature and value of feedback in the educational process, often considering only motivational comments as feedback. Teachers' perceptions of feedback in pedagogy are rather intuitive. For example, in interviews teachers said:

"No, honestly, I never really thought about it. But I always wanted my lessons to be interesting and informative for the kids, and that can only happen if we are in dialogue with them. So I focus on dialogue with the children. I don't aim to give ready-made knowledge, but rather for them to explore, analyze, and draw conclusions through practical tasks. And that's probably where the feedback happens."

(Math and physics teacher, 10–20 years teaching experience)

This situation may be caused by a lack of specialized knowledge about feedback.

Despite lacking formal knowledge about feedback, teachers nevertheless provide students with many varied comments. Analyzing these comments, we concluded that the vast majority (76.3%) belong to situational feedback, which relates to a specific task and is of limited use in further learning. Only 6.5% of comments were classified as transferable feedback. The remaining comments related to organizational matters rather than educational outcomes.

Using feedback more subconsciously and intuitively than consciously, teachers contribute little to encouraging students to actively use the feedback (they do not discuss its importance or clarify its content, etc.). Judging by the fact that most teachers admitted in interviews that they do not reflect on feedback, they do not convey its value to students. As one teacher said in response to whether they expect students to heed their comments:

"Well, it depends on the kids. I don't have very strong classes. Basically, if we worked well and wrote well, that's enough for me. If I had stronger classes, maybe I would expect that it's not just for nothing. But here, the main thing is that they understand the topic and the material. That's the teacher's main duty - to explain what they didn't know before."
(Russian language and literature teacher, 2 years teaching experience)

3. **The Research question "How do students perceive the feedback they receive from teachers?"**

The answer to this question revealed the consequences that existing teacher practices of providing feedback have on students' perceptions of feedback.

During a preliminary conversation with the study participants, it was found that in all nine groups there was a very vague and uncertain understanding of what teacher feedback actually is. Only after replacing the term with the synonym "comment" did the students become more engaged and said that yes, teachers sometimes give them comments, but more often just assign grades. This was reflected in the drawings as follows: in 30 drawings (43%) only grades were depicted, in 14 drawings (21%) both grades and teacher comments were shown, and only in 8 drawings (12%) was there only a comment. In the remaining drawings, there was neither a teacher's comment nor a grade (for example, just a student working on an assignment). We classified all teacher phrases as comments, for example: "Here it's only a 4."

The data obtained through the drawing method were analyzed using content analysis [Smith, 2000]. For this, we used a codebook methodology developed by Harris and Brown [Harris et al., 2009], which contains five categories (type of assessment, assessment outcome, affective words and symbols, physical space and artifacts, representation of the teacher). However, we did not achieve a full match between our codes and those proposed, so some codes were excluded (because they did not appear in our data), while others were added in addition to the existing ones. Among the excluded codes were computer testing, presentations, and images symbolizing thinking or boredom; among the added codes were answering at the board, redoing work after class, solving math problems and examples, and misbehavior. A separate category "classmates representation" was also added: classmates portrayed positively or negatively (in the first case, depicted as helping, prompting, or supporting; in the second, laughing at or otherwise showing lack of support for peers). The category of physical artifacts was expanded to include the teacher's pointer, school register or diary, and the teacher's desk, which was clearly present in some images. Regarding the depiction of the teacher, the data clearly showed images of a teacher giving a failing grade or negative comment, as well as a biased or unfair teacher, which was absent from the Harris et al. coding scheme [Harris et al., 2009]. The list of identified codes and their frequency in the drawings are presented in Table 4.

The picture method data showed that the dominant type of assessment depicted was answering at the board (31% of all drawings), and 13% of drawings showed assessment of non-academic performance such as being late to school or not having indoor shoes. In terms of visible assessment results and feedback, negative grades (failing marks) clearly predominated-29 drawings or 43% of the total. Only five drawings (7%) showed no explicit emotional cues; all

other drawings contained positive (37% of drawings) or negative (68% of drawings) affective symbols. Some drawings contained both positive and negative words or symbols.

The depiction of the teacher was the most frequent theme in this study. The teacher was absent in only 17 drawings (25%). Accordingly, three-quarters of all images contained the figure of a teacher. Of all the images, in almost half (33 or 48%) the teacher was portrayed negatively-as shouting, giving negative assessments, with monstrous features-and only in 18% of cases was the teacher depicted positively (smiling, kind-faced, helping, or expressing words of support or praise).

It is important to note that in 28 drawings (41%) the assessment process appears to take place in an empty classroom with only the teacher and the responding student present, while in 11 drawings (16%) classmates are present, either supporting (12% of all drawings) or, conversely, laughing at the responding peer (4%).

Statistically significant associations were found between the presence of positive and negative affective words and symbols and the presence of top (fives) and low (twos) grades in the drawings ($\chi^2(1, N = 54) = 10.76$, $p < .05$). That is, high grades are statistically significantly associated with a positive attitude toward assessment and feedback, while failing grades are linked to a negative attitude. The representation of the teacher also statistically significantly correlates with the grades shown in the drawings and the teacher's comments. Specifically, the image of a teacher giving negative comments is positively associated with the failing grades ($\chi^2(1, N = 40) = 6.21$, $p < .05$) and negative affective symbols ($\chi^2(1, N = 65) = 9.22$, $p < .05$). Interestingly, if the teacher is depicted sitting at a desk in the drawing, there is a higher likelihood of failing grades and negative affective symbols appearing. At the same time, the absence of the teacher in the drawing predicts a more frequent occurrence of positive symbols.

The data obtained from the focus groups were transcribed and analyzed using thematic analysis [Braun & Clarke, 2006]. We focused only on themes related to assessment and feedback. After several readings of the transcripts, 32 themes were identified and clustered into 6 categories:

- teacher's role in assessment;
- outcomes of assessment;
- feedback as comments;
- grades prevail over comments;
- understanding of criteria;
- factors hindering fair assessment.

Next, a content analysis was conducted to determine the frequency of the identified codes [Smith, 2000]. The results of the content analysis are presented in Table 5.

As can be seen, the most frequent category was “the teacher’s role in assessment,” which included 173 statements. About one-third of these statements (60 out of 173) concerned unfairness and bias in the assessment and feedback process, followed by the theme “the teacher does not cooperate” (24% of statements in the category). Only 16% of the statements about teachers were positive.

Table 4. Coding system for students' drawings and frequency of categories and subcategories within student drawing

Type of assessment		Assessment outcomes		Affective words and symbols		Physical environment artefacts		Teacher representations		Students representation	
Subcategory	N	Subcategory	N	Subcategory	N	Subcategory	N	Subcategory	N	Subcategory	
Test	8	No outcome mentioned	11	Negative	42	Copybook or paper	28	No teacher	17	Classmates supportive/positive	8
Unspecified written assessment	10	Reporting/knowing students' level	2	Positive	25	Blackboard	33	Teacher talking or giving instructions	7	Classmates negative	3
Homework	2	High grades	17	Confused	15	Single student's desk	14	Teacher asking a student questions one on one	1	Classmates present, but their role unspecified	4
Answering teacher questions	2	Failing grades	29	Time	1	Multiple desks separated	16	Teacher giving negative comments	24	Student asking for assessment	4
										No peers, one-to-one assessment	28
No specific task mentioned	17	Corrected work	2	No use of affective words or symbols	5	Unspecified desk	5	Teacher praising or giving a good mark or supporting	9		
Answer at the blackboard	21	Outcomes in relationships	2	Misbehaviour	3	Pen or pencil	7	Teacher present, but not acting	9		

Type of assessment		Assessment outcomes		Affective words and symbols		Physical environment artefacts		Teacher representations		Students representation
Subcategory	N	Subcategory	N	Subcategory	N	Subcategory	N	Subcategory	N	Subcategory
Non-academic performance assessment	9	Statement of incorrectness	5			Book	4	Teacher's favouritism or unfair assessment	4	
Peer/self-assessment	2	Confusion	4			No physical artefacts	9	Teacher sitting at her desk	20	
								Teacher comments	11	
Redoing a task/test after lessons	4	Praise	7			Pointer	8			
Assessment of math	9	Neutral grades	9			Register	7			
		Punishment	12							
Total	*67*		*89*		*86*		*122*		*74*	*43*

Table 5. Coding system for frequencies of themes in focus groups.

Teacher's role in assessment		Outcomes of assessment		Feedback as comments		Grades prevail over feedback	
Subcategory	N	Subcategory	N	Subcategory	N	Subcategory	N
Teacher biased or unfair	60	Impact on relationships with peers	42	Teacher's negative comments	27	Grades overload	11
Teacher is not supportive	42	Need for mark improvement	31	Parents and tutors provide help	9	Grades without comment	8
Teacher is supportive	28	Impact on relationships with parents	17	Request for timely feedback	4	Importance of grades	7
Teacher impinges professional ethics	19	Emotional outcomes	15	Teacher provides help and useful comments	4	Diversity of grades	4
Teacher uses marks as tools	12	Higher motivation	4	Teacher's positive comments	3		
Teacher is fair	4	Lower motivation	3	Teacher refuses to provide help	3		
Teacher helps when not asked for	3	Cheating	3	Peers provide help	3		
Teacher asks for feedback from students	3			No action on comments	1		
Teachers give different weights to grades	2			Demotivational feedback	1		
Total	*173*		*115*		*55*		*30*

Understanding of criteria		Factors hindering fair assessment	
Subcategory	N	Subcategory	N
Vague criteria	12	Students don’t understand feedback	6
Clear criteria	4	Low quality of assessment instruments	5
		Competition between students	4
Total	*16*		*15*

A typical example of students' statements about the teacher's role in assessment can be illustrated by the following:

K6S3*: "Well, also, for example, when someone else gets a four, but you... for example, they missed some points, and you missed some points too. They get a five, but you get a four. Then it's also upsetting-why did they get a five when they also missed points, but I got a four? It's unfair."*

The category "outcomes of assessment" included a total of 115 elements, with the largest share (37%) related to "the impact on relationships with peers," which could be either positive or negative (classmates help or classmates laugh). Assessment and feedback also have a significant influence on family relationships (15% of statements about assessment consequences concerned family reactions to school results).

Examples of such statements include:

7KS3: *"It seems to me that even classmates, when someone gets a grade, our class just starts laughing mockingly. Like, 'Oh, look! Vanya got a two, for example.*"

K6S1: "*At first, I argued with my mom or dad because of grades, then my mom and dad argued with each other. Because mom was angry or dad was angry, and mom was angry. They start yelling at each other over little things, quarrelling, and no one talks at all.*"

One of the most emotionally charged themes was the topic of redoing a task or a test after lessons. Interestingly, two opposing tendencies were clearly expressed here: some students were very upset that teachers made them stay after class to redo work, while the main complaint of others was the lack of opportunity to improve their grades.

Finally, another frequently mentioned outcome of assessment was students' emotional reactions. Among the emotions related to assessment mentioned most often were fear, distress, shame, and anxiety:

K6S4 (discussing whether it would be better to study without grades or not): "*On the other hand, it's good because you don't concentrate too much or get nervous, like shaking. I also go to an academy where they don't grade me. I still do homework and everything, but they don't grade, and it's actually really good. You don't worry about anything*."

The next category identified in the data is "feedback as comments." The number of elements identified in this category was half that of the previous category ("outcomes of assessment"): 55 versus 115, and three times fewer than in the first category ("teacher's role in assessment"). The only subcategory that exceeded our established threshold of 5% mention frequency in the data was the code "teacher's negative comments" – 27 elements, or 7% of all elements identified in the focus groups. Within this category, this code accounted for 49% of the mentions.

Other categories appeared significantly less frequently in the focus group data, and the themes they contained did not surpass our 5% mention threshold.

By conducting a joint analysis of the data obtained from drawings and focus groups, it can be observed that students in our sample generally perceive grades as feedback on their academic work, while verbal teacher comments are seen as feedback on behavior, diligence, and non-academic performance. Assessment and feedback are predominantly associated by students with negative emotions, unfairness, and teacher bias. For the students who participated in the study, assessment and receiving feedback is also an important social practice. According to the data, this practice is mostly perceived as a negative factor that worsens relationships with important others (classmates and parents). The only type of relationship that, in some cases, has a positive emotional outcome in assessment situations is the relationship with friends, which is linked to mutual help and support during giving an answer. At the same time, lack of support from friends leads to perceiving assessment as a strongly negative experience (the whole class laugh at mistakes). Interestingly, for a significant number of students (41%), assessment and feedback is a specifically individual practice, where classmates are not present, even if the school classroom with desks is depicted.

4. **The Research Question "Is there an association between young adolescents' understanding of feedback and their agency?"**

The answer to this question revealed an association between agency and students' understanding of feedback.

To address this question, we conducted a correlational analysis on students' results across two scales: the Feedback Literacy Scale and the Student Agentic Engagement Scale.

The Feedback Literacy Scale is our original development, which we had to develop in the absence of an instrument suitable for our research goals. The Student Agentic Engagement Scale was developed by Mameli and Passini [Mameli, Passini, 2019] and adapted into Russian.

In developing the Feedback Literacy Scale, we based it on the characteristics of a student capable of working with feedback as proposed by Molloy, Boud, and Henderson [Molloy et al., 2020]. The initial questionnaire consisted of 31 statements loaded to 7 factors of the theoretical model used; however, after conducting cognitive labs, the final version of the questionnaire included only 20 items:

Q1 When the teacher corrects my mistakes, I try not to make them again.
Q2 When I understand the teacher's comment, I take it into account in other assignments.
Q3 To learn something, it is not enough for me to just listen to the teacher; I have to put in effort myself.

Q4 If I don't understand something, I ask the teacher or classmates.
Q5 If I don't know how to do an assignment, I ask someone for help.
Q6 I carefully listen to the explanation of how to complete the assignment to avoid more mistakes.
Q7 I ask not only the teacher but also others (e.g., classmates or parents) to check if I am doing the assignment correctly.
Q8 I understand that my work can be assessed differently; some pay attention to correctness, others to neatness.
Q9 I try to understand each teacher's requirements because they are different.
Q10 When I don't understand my mistakes, I compare my work with work of others.
Q11 It would help me a lot if we had samples of good essays or projects.
Q12 I carefully read the assignment instructions because there are sometimes hints.
Q13 Some comments, although unpleasant, are useful.
Q14 I understand whether my work is good or not even without a grade, just from the teacher's look or comments.
Q15 Sometimes, only after a bad grade did I sit down and finally understood the topic.
Q16 I like to advise others on how to improve their work when asked.
Q17 Sometimes my classmates and I help each other understand the topic or check each other's work.
Q18 When I comment on someone's work, I try not to hurt that person.
Q19 I take into account comments I received earlier when doing a new project or assignment.
Q20 I notice when working on mistakes has helped me improve my work.

Each statement in the questionnaire was accompanied by a four-point Likert scale ("not at all like me," "not like me," "like me," "very much like me").

Descriptive statistics for both scales and their subscales are presented in Table 6.

Table 6. Descriptive statistics of the scales and subscales.

	Feedback Literacy scale	Feedback use subscale	Feedback as a social act subscale	Student Agentic Engagement scale	Seek for help subscale	Expressing opinion subscale
Mean	33.8	22.8	11.0	25.2	5.98	19.2
SD	5.09	3.63	2.34	7.24	2.05	6.17

Confirmatory factor analysis (CFA) and structural equation modeling (SEM) with trimming procedures supported a two-factor structure of the developed Feedback Literacy Scale. The analysis revealed two distinct factors, labeled as Feedback Use and perception of Feedback as

a Social Act. Only items with significant factor loadings (β > 0.30, p-value < 0.05) were included in the model. A positive significant correlation was found between the subscales of the questionnaire (β = 0.63, p < 0.01). Factor analysis of the Student Agentic Engagement Scale also revealed two subscales: Seeking Help and Expressing opinion, with acceptable psychometric properties (CFI = 0.93, TLI = 0.95, RMSEA = 0.06, p < 0.01). Analysis of one-factor models for both scales confirmed their validity as unified constructs (after applying modification indices and adding residual covariances related to the similarity of wording in some items, both scales showed acceptable fit indices: Student Agentic Engagement Scale (CFI = 0.94, TLI = 0.919, RMSEA = 0.07), Feedback Literacy Scale (CFI = 0.92, TLI = 0.902, RMSEA = 0.06)).

The analysis revealed a statistically significant positive relationship between the construct Feedback Literacy and the construct Student Agentic Engagement (Spearman's rho = 0.174, p < 0.001). Significant positive correlations were also found between the subscale Feedback Use and the subscale Seeking Help (Spearman's rho = 0.289, p < 0.001), as well as between the subscale Seeking Help and the subscale Feedback as a Social Act (Spearman's rho = 0.310, p < 0.001). The correlation matrix between the scales and subscales is presented in Table 7.

Table 7. Correlation matrix (Spearman's rho) between the scales and subscales.

	Feedback Use	Feedback as a Social Act	Expressing opinion
Feedback as a Social Act	0.331*	–	–
Expressing opinion	–0.08	0.172**	–
Seeking Help	0.289*	0.310*	0.417*

*$p < 0.001$, **$p < 0.01$

The analysis of associations between subscales revealed that students who actively use feedback to improve their performance are also more likely to seek help from teachers when needed, for example, by initiating questions to support their learning-thus demonstrating proactive agentic behavior. Another key finding is that students who actively request feedback (i.e., recognize its importance for progressing toward their goals) tend to express and defend their opinions more frequently, including in interactions with authority figures such as teachers. Finally, it is important to note that students who perceive giving and receiving feedback as a social interaction process are more inclined to voice their opinions even when these oppose the majority or an authority figure, especially if doing so could lead to improvements beneficial to them. In other words, these are students who understand the importance of communication for improving their unsatisfactory situation.

The two-dimensional structure and composition of the Feedback Literacy Scale in the Russian sample may reflect the fact that, generally, Russian teachers approach feedback unconsciously and often intuitively, and do not provide students with feedback that helps them learn. Without deliberate teacher efforts to foster students' understanding of feedback, students themselves use feedback in an unconscious and intuitive manner. Consequently, their feedback literacy is largely limited to perceiving feedback as a social act ("I approach others to get feedback") and using received information to avoid making the same mistakes ("I use teacher comments to not make the same errors again"). Other factors, such as perceiving feedback as an opportunity to improve results, willingness to provide feedback to others, or awareness of emotions during feedback reception, did not emerge as distinct constructs in our sample.

The presence of statistically significant associations between agency in the learning process and understanding of feedback, despite the limited amount of feedback that helps students learn, suggests that students' agency in using feedback to improve their outcomes may manifest in various ways. For example, agency may be required for independently seeking feedback (proactive feedback requests) from multiple sources when the teacher does not provide the necessary information to address learning gaps. Such sources may include parents, the internet, peers, and others, especially when this scenario is not part of the usual instructional process. Another area where agency is exercised could be requesting clarification or explanation from the teacher when the student does not fully understand the teacher's explanations, particularly if the teacher does not encourage student questions.

Theoretical Significance of the Research

1. The concept of feedback literacy has been conceptualized within the Russian context.
2. Conceptual understanding of feedback in education gained a foundation for further scientific discussion.

Scientific Novelty of the Research

1. A positive association between feedback literacy and agency of young adolescents has been established. It is manifested in the proactive attitude of students who use feedback toward their general learning.
2. A typology of feedback provided by teachers to students during learning activities has been developed, comprising situational and transferable feedback. Situational feedback includes confirmation of correct answers, reaction to errors, clarification and summarization of knowledge, guidance toward an answer, and praise, which is information related to a specific task and of limited applicability in further learning. Transferable feedback can be applied to solving tasks of different types and includes transfer of knowledge, demonstration of problem-solving algorithms

(process), feedback on learning strategies, motivation enhancement, development of self-reflection and self-regulation, grade explanation and teaching to peer-assess.

Practical Significance of the Research

1. A Feedback Literacy Scale inventory has been developed, which can be used for the assessment of the level of feedback literacy among young adolescents.
2. Feedback practices of Russian school teachers and students' perceptions of assessment and feedback have been described. It can be utilized by researchers for further study of this phenomenon.
3. A curriculum for the course "Assessment and Feedback in Education" has been developed. The program was implemented in the 2024/25 academic year in the 1st and 2nd modules within the Master's program "Pedagogical Education" at the Institute of Education, National Research University Higher School of Economics, and received a student evaluation above the departmental average (according to the Student Opinion Poll).

Thesis Statements

The following statements are put forward for the defense:

1. Understanding of feedback is a multidimensional construct based on subject-specific knowledge and skills, which represent a combination of elements of key competencies, instrumental literacy, as well as students' value-motivational orientations. The development of students' understanding of feedback requires comprehensive work with the elements of this construct within the context of feedback.
2. Feedback practices used by teachers in contemporary Russian schools do not contribute to the improvement of students' learning outcomes or to the development of their understanding of feedback, since the vast majority of teacher feedback relates to subject knowledge and is situational, that is, applicable only to a specific task and not transferable to other learning situations.
3. Teacher feedback is not aimed at forming value attitudes regarding the importance of feedback, nor at developing elements of key competencies and instrumental literacy that are significant for working with feedback. Students do not perceive it as information that helps them learn. As a result, there is a prevailing negative attitude among students toward assessment in general and feedback in particular, as well as toward teachers in assessment situations.
4. Understanding of feedback among young adolescents can be assessed using the author-developed Feedback Literacy Scale, which demonstrates acceptable psychometric properties (CFI = 0.91, TLI = 0.88, RMSEA = 0.06) and revealed a two-dimensional construct in the Russian sample ("feedback use" and "perception of feedback as a social act").

5. A positive statistically significant correlation was established between students' agency as the ability to perform deliberate proactive actions beyond existing boundaries in the learning process, and their understanding of feedback.

Conclusions

During the research, four hypotheses were tested and all were confirmed, allowing us to draw the following conclusions:

1. The construct "feedback literacy," according to the theoretical frame of literacies and competencies accepted in Russian educational science [Dobryakova et al., 2020], does not belong to either category. Since it involves the activation of various competencies organized into a holistic sequence necessary for successful problem-solving (thinking or reasoning competence, interaction "with self" (intrapersonal competence) , and of interaction with other people (interpersonal competence), instrumental literacy for understanding the content of feedback, as well as value orientations, this construct should be classified separately, alongside "learning to learn," "problem-solving," and "decision-making." Accordingly, a more accurate translation of "feedback literacy" into Russian would be "умение работать с обратной связью," rather than "feedback literacy" or similar terms as previously used. The ability to work with feedback forms the basis for understanding feedback, which, in addition to the components listed above, also requires subject knowledge.

2. The ethnographic study conducted (54 observed lessons, delivered by 19 teachers in grades 5–7 of state non-selective schools in the European part of Russia) showed that the feedback provided by teachers in the sample schools does little to improve student academic performance. According to Hattie's classification, the most significant feedback for improving educational outcomes is that which relates to the levels of process and self-regulation [Hattie, Timperley, 2007], as this information helps students in further learning and in solving other types of tasks. In our study, this type of feedback was classified as "transferable" and accounted for only 6.5% of all feedback units identified. The largest share was feedback at the task level (68%), and of this, more than half (58%) was confirmation of the correctness of the student's answer. This type of feedback (at the task and self- levels) was classified as "situational," as its information rarely helps students master other topics. The share of situational feedback in this sample was 72% (the remainder was organizational feedback unrelated to the educational outcomes). Another finding is that teachers provide feedback mainly intuitively and consider it important primarily for increasing student motivation, rather than for closing the gap between existing knowledge or skills and the expected ones. Consequently, teachers do not discuss with students the need to use their comments and do little to foster students' abilities to work with feedback.

3. The results of the study on students' perceptions of feedback received from teachers indicate that students perceive grades as feedback on their academic achievements, while verbal comments are seen as feedback on behavior, attitudes toward learning, and outcomes not directly related to academic achievements. The use of drawing methods in combination with focus groups made it possible to establish that, for the students in the research sample, assessment and receiving feedback are predominantly negative experiences (negative affective symbols appeared in 62% of drawings), associated with written work and answering at the board. Negative attitudes toward assessment are accompanied by negative attitudes toward teachers (teachers appeared in 75% of drawings, with 48% depicting the teacher in a clearly negative light, and only 18% in a clearly positive light). Another important finding is that, for the students in the sample, assessment is an important social act that affects their relationships with others, primarily classmates and parents, often for the worse.

4. The answer to the final research question was positive. We developed an original inventory The Feedback Literacy Scale, which made it possible to conclude that there is a statistically significant positive correlation between students' ability to work with feedback and their level of agency. Understanding feedback as a combination of competencies, instrumental literacy, value orientations, and subject knowledge provides opportunities for agency, for example, in determining the necessary tools and sources of information to close the gap between the current and desired situation, in choosing various symbolic systems as tools for communicating feedback to peers, in selecting ways to store feedback information, and so on. The data show that students who are skilled at working with feedback demonstrate proactive behavior, which may be expressed in seeking feedback in its absence, as well as searching for information to close the gap between the current and desired state if the teacher does not provide this information. Students who have had positive experiences of improving their results through applying teacher feedback are more likely to seek help, defend their opinions, and take actions that help them learn, even if these actions go beyond what is accepted or expected by society. Additionally, students who are skilled at working with feedback perceive it as a social act. For such children, communication is a means of changing an unsatisfactory situation.

Summarizing the results, it should be noted that agency is currently one of the most important characteristics enabling individuals to cope with constantly changing environmental conditions. For school students, agency is expressed in the ability to participate in constructing their own life and educational trajectory, including taking initiative and a proactive approach to their learning, and going beyond adult-established boundaries to change unsatisfactory educational situations for themselves and others. To date, several factors associated with agentic behavior in children have been identified, and this study proposes to add another-students' ability to work with feedback.

Proactive behavior in the context of receiving feedback from the teacher includes both seeking feedback (for example, by asking teachers questions to clarify unclear material, explain assessment results, etc.) and independently searching for answers to questions or ways to address their own deficits in the absence of satisfactory feedback from the teacher.

In the process of working with feedback, a student may exhibit agentic behavior: understanding feedback as a multidimensional construct enables intentional actions that go beyond the rules and norms established by the teacher for the benefit of themselves and others, through such elements of the construct as:

- determining tools that will help close the gap between current and desired knowledge/skills;
- searching for necessary information;
- formulating the ultimate goal;
- turning to various, including non-obvious, sources of feedback;
- generating non-trivial ideas to close the gap between current and desired knowledge/skills;
- adapting their feedback-related actions to changing circumstances;
- using symbolic systems as tools for communicating feedback;
- using information resources to generate feedback;
- using technology to store feedback.

Accordingly, by developing students' ability to work with feedback through providing opportunities for agentic action in the feedback process, educators can foster the overall development of student agency.

However, in the Russian context, the development of students' ability to work with feedback is hindered by several factors, as shown in the second part of the study. Above all, this is due to teachers' lack of skills in working with feedback. Without knowledge and skills in organizing feedback, teachers do not provide high-quality feedback on academic achievements that can significantly and positively influence student progress, which leads to students' negative perceptions of the entire assessment process, including receiving feedback and the teachers who evaluate them.

As recommended measures for developing teachers' ability to work with feedback, it is proposed to introduce a module on feedback into teacher training and retraining programs at all levels of education. This experience has already been implemented in the master's program "Pedagogical Education" at the Higher School of Economics as a compulsory course "Assessment and Feedback," as well as in elective courses in other master's programs and undergraduate programs at HSE University. The course was taught in the 1st and 2nd modules of the 2024/25 academic year and, according to student teaching evaluation (SOP), received a score above the departmental

average. Additionally, a course titled “Formative Assessment and Feedback” is currently being developed within the framework of continuing professional development. Furthermore, seminars and workshops on feedback for teachers have been developed and are regularly conducted.

Limitations and Further Perspectives of the Study

The limitations of this study include the size and composition of the sample. In the quantitative study of feedback literacy, 359 students from urban, non-selective public schools participated. In the future, it is planned to increase the sample size and make it representative of the general population by including students from different types of schools, including private and selective schools, where teachers may use different practices that influence students’ perception of feedback. We also plan to collect data on primary school students, exam year students, and university students, where feedback practices (and consequently its perception) may also differ. For this purpose, the SCoF questionnaire on feedback perception by younger students [Brown, 2012] has already been adapted, and adaptation of the feedback literacy measurement tool for university students [Song, 2022] is planned. Additionally, there are plans to refine the developed instrument to establish benchmark values that allow conclusions about the degree of development of feedback literacy skills.

The study of teacher practices was conducted among teachers from three public schools, which is also a limitation, since selective and private schools may have different requirements for assessment and feedback organization. Teachers’ perceptions of feedback were studied only using qualitative methods. Currently, a quantitative study of Russian teachers’ perceptions of feedback has been launched, for which the TCoF (Teachers’ Conceptions of Feedback) questionnaire [Harris, Brown, 2008] has been adapted.

An important next step will be to identify the components of domain specific knowledge and determine the principles by which a teacher should work with it in the context of feedback, so that the balance between transferable and situational feedback shifts in favor of transferable feedback.

Given the novelty of feedback research in education within the Russian context both from the teacher’s side (teachers’ perception of feedback in the learning process and their skills in organizing feedback) and from the students’ side (their skills to work with received feedback), it seems critically important to continue research in this area, moving toward the development of a scientific and methodological system for preparing Russian teachers to consciously use feedback in the educational process.

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