

An Exploration of the Relationship Between Students' Preferences For Formative Feedback and Self-Regulated Learning Skills

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ABSTRACT

The purpose of this study is to explore students' preferences for formative feedback and its relationship with their self-regulated learning skills. The study used a mixed methods approach in which quantitative data collection and analysis was followed by qualitative data collection and analysis. 'Preferences toward Formative Feedback' and 'Self-Regulated Learning Skills' instruments were utilized to gather the quantitative data and a semi-structured interview was carried out to gather the qualitative data. The quantitative data were collected from 330 students, and a semi-structured interview was carried out with 10 students. Among the various findings, one is considered critical: although students from different self-regulation capabilities; either low, average or high, frequently preferred formative feedback that are listed in the students' preferences toward formative feedback instrument, those having high self-regulated learning skills depend infrequently on formative feedback than students who have lower self-regulated learning skills. An exploration of the relationships between students' preferences for formative feedback and self-regulated learning skills may give educators better understanding to overcome the challenge of providing appropriate formative feedback in accordance with students' self-regulated learning skills. Moreover, such an understanding and awareness enable educators to enhance students' self-regulated learning skills that is an essential quality in a life-long learning era.

Keywords: *Feedback, formative feedback, self-regulation, preferences*

INTRODUCTION

The learners' needs should be prioritized in adjusting the general principles for effective feedback (Brookhart, 2011), yet the determination of the most useful forms of feedback to students regarding the enhancement of learning or their study specifically is not taken into consideration adequately (Taylor & Burke da Silve, 2014). Brown (2004) states that if learning is integrated with assessment, feedback should be placed at the heart of the process. By placing the provision of effective feedback to students at the heart of the process, they realize clues about their work that they may not recognize on their own, which fulfills what they are trying to learn and achieve (Brookhart, 2011). Although a vast amount of time is needed for helping students to be aware of not only what they need to advance but also where they have misconceptions, serious energy should also be dedicated to this process (Brown, 2004). Moreover, even if they have done well, they need to be provided with feedback, which enables them to realize about their strengths, how they can improve it and advance further (Brown, 2004). Among the major challenges of providing students with effective feedback is the lack of awareness that what types of feedback should be matched with students'

needs, preferences and capabilities. Buckley (2012) stated that there is a possibility to empirically measure the effectiveness of feedback which enhances the process of providing different forms of feedback on a more evidence based approach. However, the literature is much to say about the boundaries that influence the delivery of effective feedback. Students' perspectives with regard to feedback (Carless, 2006; Weaver, 2006; Poulos & Mahony, 2008; Lipnevich, & Smith, 2009; Buckley, 2012; East, Bitchener & Basturkmen, 2012; Plank, Dixon & Ward, 2014; Taylor & Burke da Silva, 2014; Mulliner & Tucker, 2015), the usefulness of feedback (Harks, Rakoczy, Hattie, Besser & Klieme, 2014), the mismatch between students' expectations and instructors' perceptions (Perera, Lee, Win, Perera & Wijesuriya, 2008; Kaivanpanah, Alavi & Sepehrinia, 2015) and students' preferences for different forms of feedback (Şat, 2013; Bayerlein, 2014) are one of the most significant boundaries that exist between educators and learners which hinders the provision of effective feedback.

One way of transcending boundaries of students that hinder them to fulfill the gap towards the desired level of performance is exploring factors regarding their characteristics, such as the value and importance of providing students with appropriate formative feedback that have an impact on the efficacy considerations (Mory, 2004). Although multiple forms of formative feedback may be employed to fulfill students' needs, in higher education, the main consideration is that to be able to reinforce students' self-regulation, formative feedback should be valued (Nicol & Macfarlane-Dick, 2006). In case of relevant data is collected, students' use of feedback and intra-and inter-individual differences might be explored in accordance with their self-regulated task engagement. (Butler & Winne, 1995). In that sense, Butler & Winne (1995) suggested an elaborated model of self-regulation and brought to the conclusion that research on feedback and research on self-regulated learning should be firmly coupled. Whatever the theoretical background is, almost all researches follow the notion that self-regulation rely highly on lasting feedback of learning effectiveness (Zimmerman, 1990). Nicol & Macfarlane-Dick (2006) emphasize that higher education needs to empower students as self-regulated learners, and to achieve this purpose formative feedback should be utilized. According to Zimmerman (2002) these are the essential qualities that many students are devoid of and self-regulated learning process is significantly consistent to teach in a lifelong learning era. Looking from such a glimpse, the relationship between students' preferences for formative feedback and self-regulated learning skills gains importance to be explored. An exploration of such a relationship might enable educators to rearrange their courses and programs aimed at providing formative feedback in accordance with students' self-regulated learning skills that will enhance the level of satisfaction from the learning environment. Moreover, such an awareness and understanding could allow educators to teach and enhance students' self-regulated learning skills necessary for life-long learning. Reflecting this is the rise of an exploration of a relationship between students' preferences for formative feedback and self-regulated learning skills by linking that potential to pedagogy and educational outcomes. Furthermore, identifying any gaps in the literature regarding the value and importance of the provision of formative feedback in students' self-regulation capabilities may inform future design and evaluation for educators to take into consideration.

Literature Review

Feedback & Formative Feedback

The gap between learners' present and desired level of performance is extensively emphasized in literature for the definition of feedback (Şat, 2013). According to Hattie & Timperley (2007) students have several possible ways to diminish the gap between actual and desired level of performance when it comes to feedback, yet they are generally not effective in improving their learning. The way students own their control of learning in reducing this gap might have an influence on constructing their learning (Heron, 2011). To be able to reduce this gap, students make use of feedback messages emphasizing either correct or wrong sides of their work, about the strengths and weaknesses that are transmitted by teachers to have a consecutive student progress (Nicol & Macfarlane-Dick, 2006). In that sense, Hattie & Timperley (2007) conceptualized feedback as the instruction that is transferred by an agent (e.g. coach, peer, parent, instructor, self) with respect to aspects of one's performance or understanding.

Shute (2008) defined formative feedback as information transmitted to learners to enable them adjust their thinking or behavior for the improvement of learning. In this study, alongside Shute's definition of formative feedback, the information provided by the course instructor either in a verbal or oral format to help students revise their skills, correct their misconceptions, enhance their study, improve their task related progress, and corroborate their appropriate behavior. According to Shute (2008) developing student

knowledge, capabilities and understanding in some content area or general skill (e.g., problem solving) is one of the fundamental purposes of formative feedback and different kinds of feedback might be employed for the achievement of this purpose (e.g., response specific, goal directed, immediately delivered).

Self-Regulated Learning

According to Zimmerman (2002) self-regulation is an important attribute of education in the process of improving lifelong learning skills. While outcome expectations refer to one's own views regarding the efficacy of an action to accomplish a goal, self-efficacy expectations are personal beliefs regarding one's own potential or competence to perform a particular behavior (Zimmerman & Schunk, 2004). All learners are capable of regulating their own learning skills to a certain extent, yet main factors that distinguish self-regulated learners from other students are (a) their recognition of strategic relations between regulatory actions and learning outcomes and (b) their use of those strategies to accomplish their academic goals (Zimmerman, 1990). In their framework, Nicol & Macfarlane-Dick (2006), the main consideration is that although students already try to deal with self-regulation processes, there are some students who are better than others in doing so; and those who should be provided with opportunities to improve the sense of control are the weaker ones (Nicol, 2007). In fact, there are several learning processes that are circled around self-regulation: e.g. the arrangement of learning goals; the strategies to accomplish goals; the management of sources; the effort devoted to the process; response to external feedback; the construction of outcomes (Nicol & Macfarlane-Dick, 2006). In short, Butler & Winne (1995) defined self-regulation as a process in which purposeful, judgmental and adaptive actions are prioritized.

Hattie & Timperley (2007) emphasize that effective learners have the ability of constructing internal feedback during academic tasks. If tasks are not familiar or if boundaries appear when they study on them, what self-regulated learners are aware of is that they activate tactical and strategic steps to advance toward goals (Butler & Winne, 1995). Self-regulated learners differ from their passive classmates in that if and when they need an information, they proactively search for it and undergone several steps to master it (Zimmerman, 1990). Moreover, self-regulated learners find a way to achieve their goals even if they come across several obstacles such as inappropriate study situations, confounding instructors, or complicated text books (Zimmerman, 1990). Actually, self-regulated students use help-seeking strategy to develop their learning (Zimmerman, 2002). Self-regulated learners search for feedback from external sources like their peers, teachers' remarks, and answer sections of textbooks under certain circumstances, especially when there appears to be a mismatch between actual and expected level of performance (Butler & Winne, 1995). Although self-regulated learning is believed to be an asocial process, Zimmerman (2002) states that self-regulatory processes can be acquired through guidance and modeling by peers, teachers, parents, and coaches (Zimmerman, 2002). Moreover, self-regulated learners evaluate external feedback, for instance from their peers or instructors, as a guide to achieve their internal goals (Nicol & Macfarlane-Dick, 2006). One of the most distinctive characteristics of self-regulated learners is that both in social and solitary contexts they have the ability of concentrating on the way they activate, adjust, and preserve certain learning practices (Zimmerman, 2002). The key to that is their personal actions, determination, and flexible skill, not their dependency on learning methods that are socially isolated (Zimmerman, 2002). On the other hand, students who have less effective in self-regulation strategies rely much more on external factors for feedback; they hardly search for feedback in order to improve their future learning or self-regulation capabilities (Hattie & Timperley, 2007). For instance, Shute (2008) emphasizes that a student struggling during an academic task might need much more assistance and constitution from the provision of a formative feedback than a capable student.

Feedback is a central and critical aspect of student learning that is accepted in the field of education and in other fields of disciplines (Adcroft, 2011). The main consideration to be taken into account in determining the meaningfulness and usefulness of feedback is that how it reduces the gap between what was expected and what was accomplished (Brown, 2007). In examining the meaningfulness and usefulness of feedback for student learning, Gagné (1985) conceptualized it as an "external learning condition" to develop the effectiveness of learning (as cited in Can, 2009). This purpose of feedback in teaching-learning processes, that is to enhance the effectiveness of the learning, is accepted as a common notion across much of the literature. For instance, Weaver (2006) explored students' perceptions toward written feedback and explored how the gathered feedback focused on a student-centered learning approach. Four main categories of feedback is recognized after the completion of content analysis of feedback samples and student

responses: too general or obscure judgements, insufficient guidance, an emphasis on negative or irrelevant assessment criteria (Weaver, 2006). Brown (2007) investigated students' perspectives regarding the usefulness of feedback by carrying out a semi-structured interview across differing academic levels and found that even the provision of feedback generally satisfied students' expectations, there was a friction between the relevancy of judgements and grades. In a qualitative study, Poulos & Mahony (2008) provided a dimension for the definition of 'effectiveness of feedback' through students' perspectives and suggested that what effective feedback is constituted with is not only about its improvement of learning but also its potential to facilitate the transition among school and university. Taylor & Burke da Silva (2014) presented students' views regarding the effectiveness of feedback practices and stated that participants found it most useful form of feedback when they receive individually written comments; yet, when it comes to satisfaction and usefulness of feedback, there was a significant difference between multiple schools and disciplines. The researchers suggested that the effectiveness of feedback received by students should be advanced (Taylor & Burke da Silva, 2014). Mulliner & Tucker (2015) stated that while students' level of satisfaction of feedback is addressed to be insufficient, instructors generally felt that both the quality and quantity of feedback provided with students was appropriate. After that, they explored and compared students' and instructors' perspectives with respect to several aspects of feedback, such as timeliness and quality of feedback, and found that there is a significant dissonance among students and instructors regarding the aspects of feedback (Mulliner & Tucker, 2015) which, as a result, affects the effectiveness of learning. Perera, Lee, Win, Perera & Wijesuriya (2008) carried out a study to be able to identify students' and teachers' perceptions and expectations of feedback. The researchers stated that formative feedback should be adjusted during all teaching practices to improve students' self-regulated learning skills by suggesting that teachers should increase their awareness regarding the usefulness of feedback. Kaivanpanah, Alavi & Sepehrinia (2015) examined learners' perspectives with respect to different forms of oral corrective feedback by comparing students' perspectives with their teachers' and they also found a discrepancy between the two. The literature has much to say about the gap between learners' current level and instructors' expected level, the mismatch that learners and instructors have that in the end influencing the effectiveness of learning in a negative way. The important point is to enhance educators understanding and awareness towards providing more effective feedback that promotes students' learning. To be able to do so, being aware of students' preferences for formative feedback with regard to their self-regulated learning skills may give a chance to achieve such a purpose.

Purpose of the Study

The purpose of this mixed methods study is to explore the relationships between students' preferences for formative feedback and self-regulated learning skills. Specifically, following research questions were sought to be answered:

1. What are students' self-regulated learning skills?
2. What are students' preferences for formative feedback?
3. What are students' preferences for formative feedback with respect to their self-regulated learning skills?
4. Is there a relationship between students' preferences for formative feedback and self-regulated learning skills?
5. Is there a significant difference in students' preferences for formative feedback with respect to their self-regulated learning skills?
6. What compounds students' self-regulation with respect to their preferences for formative feedback?

RESEARCH METHOD

In this study, mixed methods approach in which quantitative data collection and analysis was followed by qualitative data collection and analysis was used. The quantitative research study employed a descriptive method to determine students' preferences for formative feedback and their self-regulated learning skills. After analyzing the responses, multiple statistical analysis were computed to be able to have insights regarding research questions. On the other hand, the qualitative research study employed a content analysis method. After interview sessions and audio-recordings are completed, they are transcribed verbatim

to be utilized for qualitative data analysis in which several coding and labeling strategies are followed alongside a content analysis method.

Data Collection

In this study, the collection of the quantitative data was constituted by utilizing two different instruments: 'preferences toward formative feedback questionnaire' that is developed by Şat (2013) and 'self-regulated learning skills questionnaire' that is developed by Turan (2009). Preferences toward formative feedback questionnaire was designed as a Likert scale, indicating 1 = 'Never' to 5 = 'Very Frequently'. Self-regulated learning skills instrument was designed as a Likert scale, indicating 1 = 'Absolutely disagree' to 5 = 'Absolutely agree'. The Cronbach Alpha values were .96 for preferences toward formative feedback questionnaire and .92 for self-regulated learning skills questionnaire. The preferences toward formative feedback questionnaire covers 23 items and the items describing preferences were best reflected under one factor (Şat, 2013). The self-regulated learning skills questionnaire covers 41 items and involves four dimensions; motivation and action to learning, planning, strategy using and assessment, and lack of self-directedness. The highest score that can be taken from those dimensions were 35, 40, 95, and 35, respectively. Cronbach's alpha coefficients for reliability were 0.79, 0.86, 0.89 and 0.78, respectively. The qualitative data was gathered through a semi-structured interview. After an interview guide is designed through literature review and subject matter experts' guidance, the final version is completed after numerous modifications are completed with the help of study experts' guidance and feedback. There were six questions in total; while three of them were about preferences for formative feedback and the other three were about self-regulated learning skills. The researcher had approximately 10 – 15 minutes with each participant separately to discuss the relevant issues as determined through the semi-structured interview guide. During the interview sessions, to broaden the depth of ideas that are discussed with students on their preferences toward formative feedback and self-regulated learning skills, multiple relevant questions are posed, as well. Such a procedure is followed in case students may misunderstand the content, or their answers to questions may be redundant. As a result, the researcher posed each question carefully and made certain that participants understood each question by getting their acknowledgements.

Study Group

The quantitative data was collected from students continuing in different departments in a Faculty of Education, Turkey. Those students had participated to the courses in which they experience designing and developing projects, completing assignments, reports, performing presentations about their tasks or other kind of duties in which they are provided with either written or oral feedback and formative feedback by their instructors during the process. Interviews were carried out with 10 students. Participants were selected randomly and voluntarily from those who had fulfilled the two instruments. Table 1 shows the demographics of the students participated to the research.

Table 1. Students' Demographic Characteristics

	<i>Gender</i>		<i>Frequency</i>	<i>Per.</i>
	<i>Female</i>	<i>Male</i>		
<i>Computer Education & Instructional Technology</i>	51	26	77	37,6
<i>Classroom Teaching Education</i>	51	18	69	33,7
<i>Guidance and Psychological Counseling Education</i>	16	9	25	12,2
<i>Mathematics Education</i>	12	8	20	9,8
<i>Science Education</i>	7	7	14	6,8
<i>Total</i>	137	68	205	100,0

As illustrated in Table 1, there were 137 female, and 68 male students participated to this study. 37,6% of them were from the department of computer education and instructional technology, 33,7% of them were from the department of classroom teaching education, 12,2% of them from the department of

guidance and psychological counseling education, 9,8% of them were from the department of mathematics education, and 6,8% of them were from the department of science education.

Data Analysis

During the entry of quantitative data that were collected through two different instruments, either missing values with more than two items or duplicated items were eliminated. For the next step, items that must be reversed are identified in self-regulated learning skills instrument and they are rearranged. Normality test is computed to be able to conduct parametric tests with the data set. After normality test is computed, 205 appropriate data were left in the data set. Then, each research question is investigated through statistical analysis of the data set. For the first and the second research questions, descriptive statistics, such as mean, median, mode, standard deviations and skewness, are computed. For the third research question, students' scores that are gathered from the self-regulated learning skills instrument are categorized under three groups as low, average and high scores. After such a categorization, frequencies and percentages were computed to have descriptive statistics of this distribution. For the fourth research question, a Pearson product-moment correlation coefficient was computed to be able to have an understanding of the amount and direction of the relationship between the two variables. For the fifth research question, one-way ANOVA test is computed to have an insight regarding the effect of students' self-regulated learning skills on their preferences for formative feedback. Since students are categorized into three different groups, differences between the groups are investigated in the fifth research question. After the interviews that are carried out by the researcher are transcribed verbatim, the sixth research question is analyzed through students' perspectives. Interviews provided a range of qualitative data to be analyzed through coding, labeling and content analysis.

Results

Quantitative Data Analysis

To test the normality of the quantitative data, Kolmogorov-Smirnov significance values are computed. The results indicated that the quantitative data gathered through the two instruments distributed normally. While the significance value for preferences for formative feedback is bigger than ,05 (sig. = ,059 > ,05) and the significance value for self-regulated learning skills is bigger than ,05 (sig = ,070 > ,05) admitting that parametric tests, such as t test, ANOVA and correlational analysis, can be computed.

1. What are students' self-regulated learning skills?

Table 3 shows the descriptive statistics (mean, standard deviation) regarding the scores that students had taken from self-regulated learning skills instrument. This table informs about the first research question; that is, what students' self-regulated learning skills are.

Table 3. Students' Self-Regulated Learning Skills Scores

	<i>Motivation and action to learning</i>	<i>Planning</i>	<i>Strategy using and assessment</i>	<i>Lack of self- directedness</i>	<i>X</i>
Mean	28,1463	31,3024	73,8439	22,2634	155,5561
Median	28,0000	32,0000	74,0000	22,0000	157,0000
Mode	27,00	32,00	76,00	19,00	151,00
Std. Deviation	3,01435	3,99831	7,39999	4,73088	14,27403
Skewness	-,173	-,329	-,041	-,194	,103

As illustrated in Table 3, the means for motivation and action to learning, planning, strategy using and assessment, lack of self-directedness are 28.14, 31.30, 73.84, and 22.26 respectively. The overall mean score derived from the self-regulated learning skills instrument is 155.55. In this research, three groups of students are constructed to differentiate their self-regulated learning skills scores. Students whose self-regulated learning skills scores range from 117,00 to 145,30 are categorized as low, 145,30 to 173,60 are categorized as average, and 173,60 to 202 are categorized as high. As a result of such a categorization, the overall mean score (155,55) indicates that students gathered average score from this instrument. As

illustrated in Table 4, students differed and are categorized with respect to their self-regulated learning skills scores after they had fulfilled the self-regulated learning skills instrument which provided an insight to have an answer for the first research question.

Table 4. Categorization of Students' Self-Regulated Learning Skills Scores

	<i>Range</i>	<i>Frequency</i>	<i>Percent</i>
Low Scores	117,00 – 145,30	48	23,4
Average Scores	145,30 – 173,60	140	68,3
High Scores	173,60 – 202	17	8,3
Total	41 – 205	205	100,0

Table 4 shows that the 23,4% of the students (N=48) had low scores, 68,3% of the students (N=68) had average scores, and 8,3% of the students (N=17) had high scores from the self-regulated learning skills instrument.

2. What are students' preferences for formative feedback?

Table 5 shows the descriptive statistics (mean and standard deviations) regarding students' preferences for formative feedback.

Table 5. Students' Preferences for Formative Feedback Analysis

Variables	Mean	SD.
explain how to revise in detail	3,79	,709
shows me clearly the place where revision is needed	3,99	,639
gives clues about which direction to look	3,88	,727
draw attention to strong sides of performance	3,94	,723
includes suggestions about how to further improve strong sides of performance	3,86	,776
provides what needs to be done to improve weak sides of performance	3,84	,795
gives me good and bad examples when needed	3,79	,754
is easy to understand	4,11	,666
is easy to read (for written feedback)	4,11	,695
is easy to revise / practical	4,03	,729
is consistent / not contradictory	4,13	,719
is relevant to the topic and the problem	4,12	,657
is not unnecessary	4,13	,743
is timely	4,10	,652
is useful	4,32	,565
indicates the reason why I receive a particular grade	4,00	,899
negative points are given with their justifications	4,04	,773
shows that instructor cares about the work I have done	4,25	,717
recognizes the effort I have made	4,33	,739
motivates me to revise	4,16	,718
is effective	4,18	,657
has positive tone and manner	4,15	,746
helps me in future projects	4,16	,739

The means for students' preferences for formative feedback that are listed in the students' preferences toward formative feedback instrument ranges 3.79 to 4.33 indicates that students have a high preference toward formative feedback types as indicated in Table 5. Specifically, formative feedback recognizing the effort students have made is very frequently preferred by 47,1% of the students (N=96), and

frequently preferred by 40,7% of the students (N=83). More than half of the students (N=117, 57,1%) frequently preferred formative feedback that is useful. Moreover, it is preferred very frequently by 36,6% of the students (N=75). Formative feedback that instructor cares about the work students have done is frequently preferred by 47,8% of the students (N=98), and very frequently preferred by 39% of the students (N=80). The overall mean value that is computed through this instrument was 4.06, indicating that students frequently preferred the forms of feedback that are listed in the preferences toward formative feedback instrument.

3. *What are students' having either low, average or high self-regulated learning skills scores preferences for formative feedback?*

Table 6 indicates the results regarding students' preferences for formative feedback whose self-regulated learning skills scores are ranged from low, average to high.

Table 6. Students' from different categorizations preferences for formative feedback

	<i>Range</i>	<i>Frequency</i>	<i>Percent</i>	<i>FF_Mean</i>	<i>SD.</i>
Low Scores	117,00 – 145,30	48	23,4	4,0440	,34485
Average Scores	145,30 – 173,60	140	68,3	4,0506	,31917
High Scores	173,60 – 202	17	8,3	4,1790	,23052
Total	41 – 205	205	100,0	4,0597	,31981

Table 6 shows students' distribution with respect to their self-regulated learning skills scores and how they are placed with respect to their mean scores that are derived from the preferences for formative feedback instrument. Students who are categorized under low, average and high scores have the mean values of 4.04, 4.05, and 4.17, respectively. As a result, Table 6 indicates that students who had either low, average or high scores frequently preferred the types of formative feedback that are listed in the preferences toward formative feedback instrument. In other words, whatever students' self-regulated learning skills scores are they frequently prefer the types of formative feedback that are listed in the preferences toward formative feedback instrument.

4. *Is there a relationship between students' preferences for formative feedback and self-regulated learning skills?*

Table 7 shows the results that are derived from the correlation analysis. This analysis is computed to be able to explore the relationship between students' preferences for formative feedback and self-regulated learning skills.

Table 7. Analysis of Correlation

		<i>FF_Mean</i>	<i>SR_Score</i>
Students' Preferences for Formative Feedback	Pearson Correlation	1	,145
	Sig. (2-tailed)		,038
	N	205	205
Self-Regulated Learning Skills	Pearson Correlation	,145	1
	Sig. (2-tailed)	,038	
	N	205	205

A Pearson product-moment correlation coefficient was computed to explore the relationship between students' preferences for formative feedback and self-regulated learning skills. There was a positive and significant correlation between the two variables, $r = ,145$, $n = 205$, $p = ,038$. Table 4 summarizes the results. Overall, there was a positive but weak correlation between students' preferences for formative

feedback and self-regulated learning skills. Increases in students' self-regulated learning skills were correlated with increases in preferences for the types of formative feedback that are listed in the preferences toward formative feedback instrument.

5. *Is there a significant difference in students' preferences for formative feedback with respect to their self-regulated learning skills scores?*

A one-way ANOVA was conducted to compare the effect of students' self-regulated learning skills scores categorized as low, average and high scores, on their preferences for formative feedback. The descriptives table provides statistics regarding the mean, standard deviation and 95% confidence intervals for the dependent variable for each categories of scores that are gathered by students from the self-regulated learning skills instrument.

Table 8. Students' preferences for formative feedback within different self-regulation skills

	<i>N</i>	<i>Mean</i>	<i>SD.</i>	<i>SE.</i>
<i>Low</i>	48	4,0440	,34485	,04977
<i>Average</i>	140	4,0506	,31917	,02697
<i>High</i>	17	4,1790	,23052	,05591
<i>Total</i>	205	4,0597	,31981	,02234

Table 9. Analysis of one-way ANOVA

ANOVA					
	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
<i>Between Groups</i>	,266	2	,133	1,302	,274
<i>Within Groups</i>	20,599	202	,102		
<i>Total</i>	20,865	204			

An analysis of variance showed that the effect of students' self-regulated learning skills scores, gathered from the self-regulated learning skills instrument, on their preferences for formative feedback was not significant, $F(2,202) = 1,302$, $p = ,274$.

Students' Perspectives

Interviews carried out in this research enabled a range of perspectives to be analyzed, not to assert that those are a representative sample of perspectives in the university. The primary aim of interviews that are carried out by the researcher was to enable a ground for participants in which ideas can flow to outline and examine either formative feedback or self-regulation practices. Semi-structured interviews were in such a context that participants talked and gave reflection regarding their formative feedback and self-regulation practices, and responded to multiple probes. Interviews that are carried out with participants were recorded under their permission, and transcribed verbatim. Semi-structured interviews revealed a new dimension in the research other than participants' preferences for formative feedback and self-regulated learning skills, which is their feedback-seeking behaviors.

To begin with, below are the students' perspectives regarding their own self-regulated learning skills, whether they see themselves capable enough or not.

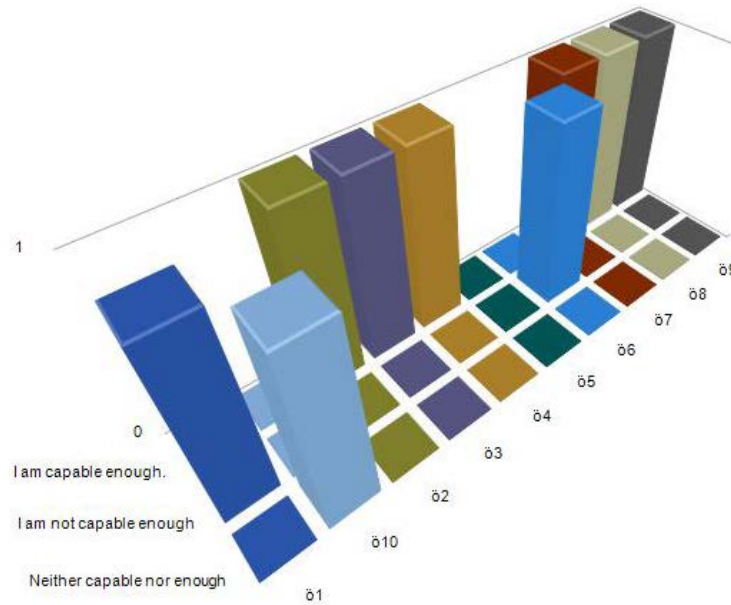


Fig. 1. Students' perceptions regarding their self-regulation capabilities

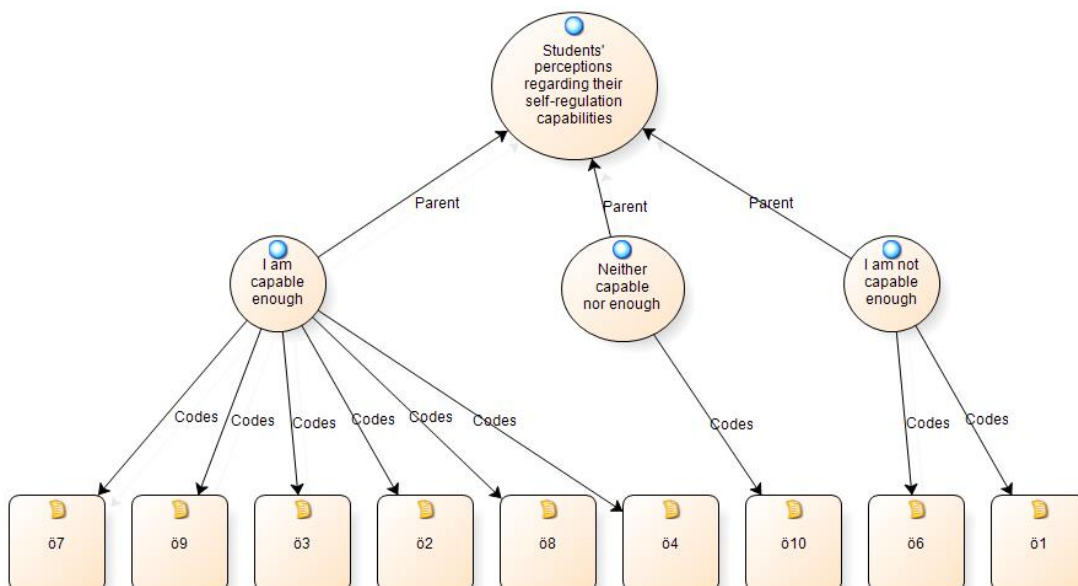
As it is seen in Fig. 1, students' views regarding their self-regulation capabilities differs from each other. While there are some students stating that they are capable enough in terms of self-regulated learning skills, there are some students, as well, stating that they are not capable enough in self-regulation. Specifically, ö2, ö3, ö4, ö7, ö8, and ö9 stated that they see themselves capable enough in self-regulated learning skills. However, ö1, and ö6 stated that they are not capable enough in self-regulation. There is only one student stating that she is neither capable enough nor not enough in self-regulation. Here are students' perspectives regarding their self-regulated learning skills, whether they see themselves capable enough or not.

ö4: I trust in myself when it comes to self-regulating my learning skills.

ö9: I believe that I am capable enough in terms of self-regulated learning skills.

Here is a model representing students' views regarding their self-regulated learning skills, and some of their perspectives in that whether they are capable enough or not.

Model 1. Students' perceptions regarding their self-regulation capabilities



ö8: I think that I am capable enough.

ö10: In fact, I am neither capable enough nor not enough. I just try to improve it.

ö1: I am not capable enough...

Second, each and every student during the interview stated that there might be a relationship between their self-regulation capabilities and preferences for formative feedback as well as their feedback-seeking behaviors. Here is a Fig and students' perspectives concerning such a relationship.

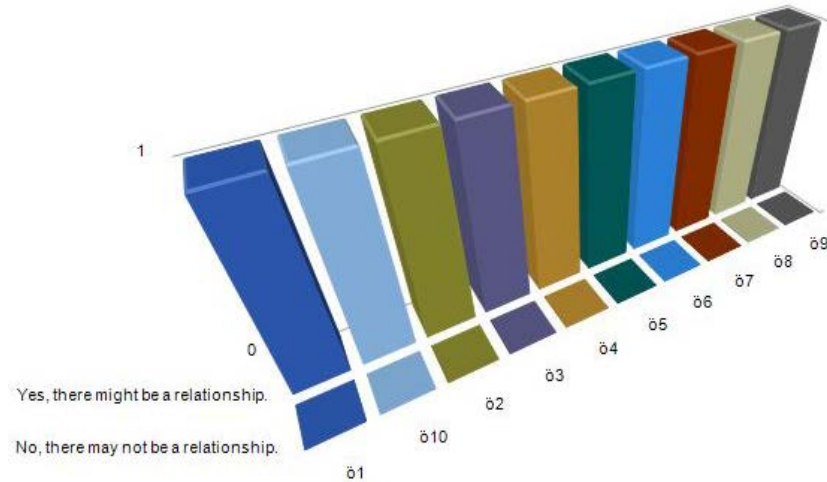


Fig 2. Students' views regarding the possibility of a relationship between their preferences for formative feedback and self-regulation

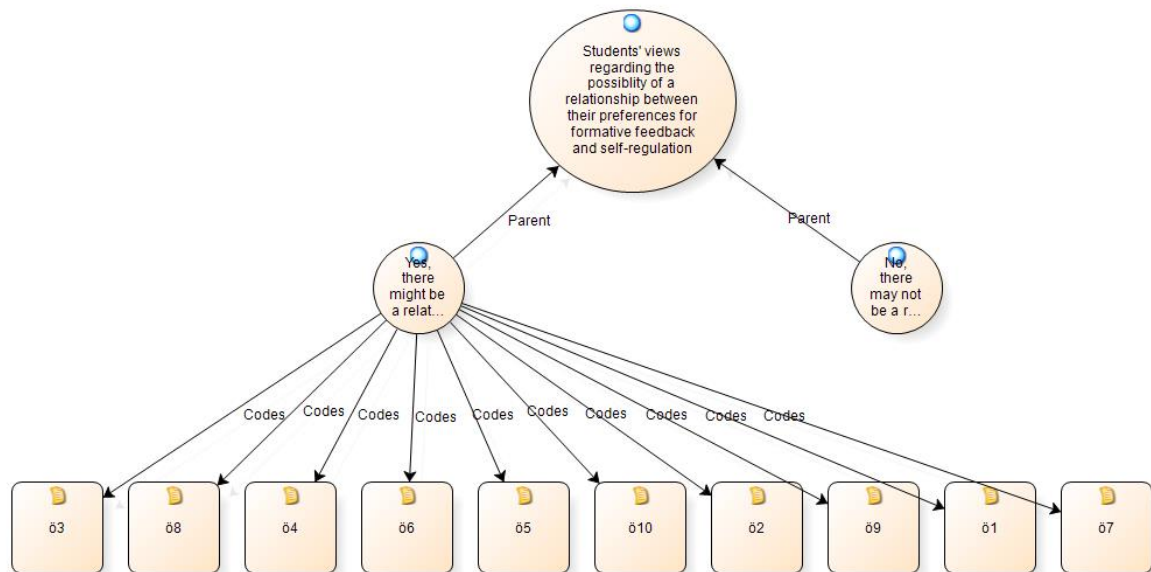
As it is seen in Fig. 2, all the students participated to the interviews stated that there might be a relationship between their preferences for formative feedback and self-regulated learning skills. Many of the students stated that if and when their self-regulated learning skills improves, their feedback-seeking behavior decreases with respect to that increase. Although their preferences toward formative feedback do not differs with respect to their self-regulation capabilities, what changes as students improve their self-regulated learning skills is their feedback-seeking behaviors in learning. Here are students' perspectives regarding the possibility of a relationship between their preferences for formative feedback and self-regulated learning skills.

ö3: I think the relationship between my self-regulation and feedback-seeking behavior is inversely proportional.

ö5: Formative feedback and self-regulated learning skills. I think that there might be a relationship.

Here is a model representing students' perspectives regarding the possibility of a relationship between their preferences for formative feedback and self-regulated learning skills.

Model 2. Students' views regarding the possibility of a relationship between their preferences for formative feedback and self-regulation



Third, during the interview, students are asked to provide an explanation regarding in what ways or how such a relationship might take place during teaching-learning processes. Although three of the groups; that are students who have either low, average or high self-regulated learning skills, frequently preferred formative feedback that are listed in the students' preferences toward formative feedback instrument, the striking difference between the groups is recognized in their feedback-seeking behaviors after the interviews were carried out. Students who believe they have high self-regulated learning skills state that although they frequently prefer formative feedback that are listed in the instrument, they generally do not need formative feedback unless they are in a very difficult or challenging condition to complete a task. Self-regulated learners have the ability of taking the responsibility of their own learning, without others' encouragement and support, and most importantly without feedback of others (Zimmermann, 2001). Moreover, such learners infrequently perform feedback-seeking behaviors to gather small clues from others, they can accompany their learning goals with a minimal dependence, which in the end contributes to long-term self-regulation. Here are students' perspectives concerning the possibility of a relationship between performing feedback-seeking behaviors and self-regulation.

ö3: *I believe that if I had better self-regulation capabilities, then I would perform feedback-seeking behaviors less frequently.*

ö4: *I trust in myself when it comes to self-regulating my learning skills. In fact, this shows that I depend less on feedback. I really am like that, if and when I face with very difficult or challenging tasks, I need support from my peers and instructors, but this happens really rarely.*

ö6: *As I keep performing feedback-seeking behaviors, I think that my self-regulation will improve.*

ö8: *As I improve my capabilities in a course, I start achieving several steps on my own, which decreases, at the end, my need to perform feedback-seeking behaviors.*

Fourth, students who believe that they have weaker self-regulated learning skills also frequently preferred formative feedback listed in the instrument; however, one of the significant distinctive characteristics of such students is recognized that they need formative feedback much more than students who believe that they have high self-regulated learning skills. Here is an example from a student who believes that she is not good at self-regulated learning skills.

ö1: *I believe that I am not capable enough in self-regulated learning skills... I really need much feedback from the instructor. I believe that if I am not good at self-regulating my learning, my instructor must motivate and support me to accomplish the learning outcomes.*

Fifth, several students stated that there might be some boundaries between students and instructors during the process of provision of feedback. Although the student believes in that getting feedback from the instructors may have a positive effect in adjusting their self-regulated learning skills, there might appear some

difficulties caused by either instructor or student that might hinder the delivery of feedback. Here are the students' perspectives regarding the value considerations of feedback:

ö7: ... there might be several difficulties in getting feedback from the instructor, such as I may not explain my problems clearly, or there might be a lack of communication with the instructor which results in insufficient feedback delivery both student and instructor may hinder.

ö6: In fact, if and when instructor cares about the project that you are trying to complete, then the level of feedback I can gather from the instructor is high, yet if the instructor do not care about it enough, than the level of satisfaction decreases.

Heffernan (2015) highlights the fact that some groups do better than others and the key to that is their social connectedness to each other. In that sense, providing effective formative feedback supports the social connectedness of students and educators which in the end enhances the success of the learning environment. 'What matter is the mortar not just the bricks' (Heffernan, 2015) is one of the most attracting analogy that can be used to define the power of formative feedback. The mortar can be seen as the formative feedback which strengthens the connectedness of students and educators by enabling students to fulfill their gaps towards the desired level of satisfaction and performance. There needs to be a 'human touch' to build the structure that is essential for creating successful and engaging learning environments which defines the need for providing formative feedback during the teaching-learning process. Here is a student explaining the value and importance of being provided with formative feedback.

ö6: Since we might enhance our weaknesses as we get feedback from the instructor, we may adjust our self-regulated learning skills in that way, or we may reduce the misconceptions in accordance with the level of feedback. I believe that if I get feedback regularly, my self-regulated learning skills increase. As I get more and more, I may arrange my misunderstandings better and be aware of where I did mistake.

Providing students with effective formative feedback may have several challenges, yet educators should take into consideration the idea that if and when appropriate formative feedback is matched with students' needs and characteristics, like their self-regulated learning skills and their preferences for formative feedback, they satisfy the bonds of trust, social connectedness, and the most importantly successful learning environment. In short, students' perspectives regarding self-regulated learning skills and preferences for formative feedback acknowledged that self-regulation compounds with the provision of appropriate formative feedback and with time.

DISCUSSION AND CONCLUSIONS

Interest in researching the relationship between students' preferences for formative feedback and self-regulated learning skills was prompted by the high emphasize that students' self-regulation compounds with the provision of formative feedback. In this study, four dimensions were identified, each providing insight for enhancement in educational outcomes by focusing more on the role of formative feedback in improving students' self-regulated learning skills. To summarize the findings, the mean value for students' self-regulated learning skills score; that is 155.55, was between 145.30-173.60 indicating that they had average score. The overall mean value 4.06 indicates that students frequently preferred formative feedback listed in the preferences toward formative feedback instrument. The correlational analysis showed a positive, weak relationship between students' preferences for formative feedback and self-regulated learning skills. Students' from different categories of self-regulation; either low, average or high scores, are investigated with respect to their preferences for formative feedback. An analysis of variance showed that the effect of students' self-regulated learning skills on their preferences for formative feedback was not significant.

Based on the findings of this study, formative feedback recognizing the effort students have made is very frequently preferred. The provision of effort feedback to students for prior successes enable students to adjust their perceptions both in sustaining their motivation and improving their self-regulation (Schunk, & Zimmerman, 2003). Considering the high preference for recognizing the effort students have made, such a provision might enable educators to improve students' self-regulation by motivating them and directing their efforts. More than half of the students frequently preferred formative feedback that is useful. Such a finding points out the discrepancy among educators and students regarding the usefulness of the feedback. Formative feedback that instructor cares about the work students have done is frequently preferred. One of the boundaries that is stated by Can & Walker (2011) is about the value that an instructor performs. If and

when feedback providers value students' potential, attach importance to their progress, and try to be helpful, students perceive feedback to be valuable (Can & Walker, 2011). The positive, weak correlation implies that students with higher self-regulated learning skills tend to insist more on getting formative feedback in a way that they fulfilled in preferences toward formative feedback instrument. The lack of a strong relationship between students' preferences for formative feedback and self-regulated learning skills does not come as a surprise since each and every student needs and seeks feedback that facilitates the formation of self-regulation. This finding is supported with the analysis of variance within the groups of different self-regulated learning skills. Regardless of students' self-regulated learning skills, either low, average or high, each and every group frequently preferred the types of formative feedback that are listed in the preferences toward formative feedback instrument. This finding is interesting as it implies that having either low, average or high self-regulation does not mean that students do not prefer formative feedback in a way that are listed in the preferences toward formative feedback instrument, but instead the frequency of such a need differs as indicated through students' perspectives. What compounds students' self-regulated learning skills with respect to their preferences toward formative feedback is an issue to have deeper insights, and interviews provided the researcher with such a new dimension to be explored. Students who believe that they are good at self-regulated learning skills generally stated that although they frequently prefer the formative feedback, the main difference between the categorized groups is revealed with respect to their feedback-seeking behavior. While students with high self-regulated learning skills tend to perform feedback-seeking behaviors infrequently, students with lower self-regulated learning skills believe that they need and expect much more for formative feedback. Resources do not have values embedded with them inherently; rather, what makes them valuable is their ability to produce that value (Ashford, & Cummings, 1985). In educational settings, providing students with formative feedback produces valuable contributions to their learning progress since it helps them arrange, adjust and enhance their learning goals. Carless, Salter, Yang, & Lam (2011) defined providing 'sustainable' feedback as a path for students to enhance their self-regulation, yet the main onus involves variations in both students' and educators' roles.

This study provides a snapshot regarding the fact that there is a need for a variation both in students' and educators' roles in developing self-regulation on the basis of formative feedback. The findings from this and prior studies necessitate further research on the factors that compounds students' self-regulation with respect to different aspects of the provision of feedback in learning. The literature review that is investigated for this study brought to emphasize a lack of concerning on students' personality differences and preferences for feedback. If providing students with appropriate formative feedback is one of the ways of the development of self-regulation, then a combined quantitative and qualitative study is required to be able to identify and unravel the boundaries that hinder educators to provide and students to seek formative feedback. There are several limitations in this research as in much of the others. Although students fulfilled the quantitative instruments voluntarily, the way they fulfilled the instruments might be influenced by the contextual and environmental factors. Therefore, this limitation should be reconsidered to evaluate the results of the study.

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