ORIGINAL ARTICLE

Students' Academic Self-Efficacy Viz-a-Viz their Academic Achievement: Jimma and Hawasa University Students in Focus

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 Abstract

Self-efficacy predicts academic achievement by influencing the effect of skills, previous experience, mental ability, or other self-beliefs on subsequent achievement. Students with high self-efficacy set challenging goals engage in more effective learning strategy use and persevere when encountered by difficult tasks. As a result, students' academic self-efficacy and its impact on their school achievement should be a focus of educational research. The purpose of this study was then to examine university students' self-efficacy and its role on their academic achievement. To this end, two Ethiopian well-known government universities were purposefully selected. Of which first year medicine students were again deliberately taken since they are seen facing such problems and experiencing the challenges of handling major courses for the first time. This study thus set out to identify medicine students' academic self-efficacy viz-a-viz their achievements with particular focus on PC1 students at Jimma and Hawasa Universities. To achieve this objective, data were collected via questionnaire (filled out by 230 PC1 students selected through systematic random sampling) and document review (students' grade reports), and analyzed using quantitative (frequency, percentage, mean and Pearson's Correlation) and qualitative techniques. The results indicate that the respondents hold positive self-efficacy in all of the courses except Biochemistry and Embryology. In addition, the study demonstrated that self-efficacy belief predicts academic achievement (high self-efficacy resulted in high academic achievement) except for Environmental Health for which an inverse relationship was observed between the two variables. Based on these findings, it has been recommended that instructors need to enhance students' academic self-efficacy where it is low and moderate it when it is excessively high.

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INTRODUCTION
Background to the study

Perceived self-efficacy influences activities and processes that have effects on our lives. That is, self-efficacy beliefs determine our feelings, thoughts, motivation and behavior. As Bandura (1987) and Wood & Loke (1987), as cited in Lampert (2007), elaborate, a strong sense of efficacy enhances performance in various ways. People with high assurance in their capabilities approach difficult tasks as challenges to be tackled rather than as threats to be avoided. Such an efficacious attitude fosters intrinsic motivation and deep engagement in activities, and helps intensify and maintain efforts in the face of challenges and obstacles, ultimately leading to success. On the contrary, Bandura (1987) notes that people who doubt their capabilities are likely to avoid difficult tasks which they regard as coercion. They have low aspiration and feeble commitment to the goals they have to pursue. When faced with difficult tasks, such individuals focus on their personal deficiencies, the obstacles they will encounter, and all kinds of adverse consequences rather than concentrating on how to perform activities successfully.

It follows that self-efficacy has a significant impact on students' academic achievement since it determines the level of motivation and learning (Kleinginn & Kleinginn, 1981b). Pajares (1996) and Schunk (1995) also assert that although most self-concept researchers currently support a "reciprocal effects" model in which self-belief and achievement are viewed as having a bilateral influence, there is enough evidence to suggest that self-efficacy may play a stronger causal role. It is usually observed that students with a strong sense of efficacy, due to resulting intrinsic motivation, challenge difficult tasks, demonstrate a high degree of effort and commitment, and ascribe failure to things within their control, rather than blaming external factors. Students who posses this type of efficacy can also recover quickly from setbacks, and are likely to achieve ultimately their learning goals. Conversely, students with low self-efficacy believe that they cannot be successful in their studies; they are less likely to make substantial and sustainable efforts, and may consider challenging tasks as threats to be avoided. These students have low aspirations which may result in disappointing academic performances as part of a self-fulfilling feedback cycle (Mahyuddin *et al.*, 2006).

The preceding discussion shows that self-efficacy beliefs influence our lives to a significant extent. One of the various human activities in which impacts of self-efficacy manifest themselves is learning. Since perceived self-efficacy determines the level of students' academic achievement, it should be addressed by researchers especially those who are involved in academics. Thus, studies which focus on the various aspects of academic self-efficacy at different levels should be carried out at different educational settings and their respective contexts.

Statement of the problem

As indicated above, high level of self-efficacy is thus a reliable predictor of academic achievement (Bandura, *et al.,* 1996, as cited in Lampert, 2007; Multon, Brown & Lent, 1991; Pajares, 1996; Pajares & Millor, 1995). Research studies also confirm the causative effect of the former on the latter. For example, Lampert (2007) in a study entitled "The Relationship of Self-Efficacy and Self-Concept to Academic Performance in a College Sample: Testing Competing Models and Measures" found that self-efficacy is a significant predictor of grade point average for students at Pacific University.

Similarly, studies carried out by Busch (1995); Carroll, *et al.,* (2009); Mahyuddin, *et al.,* (2006) identified a direct relationship between self-efficacy and academic achievement among students. Mahyuddin and his associates conducted a descriptive-correlational study on 1, 146 students selected from eight high schools in Petaling district in Selangor, one of the thirteen states of Malaysia, and found out a strong positive relationship between self-efficacy and English language achievement. On the other hand, Busch (1995) investigated gender differences regarding perceived self-efficacy and academic performance among 154 (77 male and 77 female) second year college students majoring in business administration, at Norwegian College, and proved that self-efficacy affected academic achievement of male and female students in a similar way. Carroll *et al.,* (2009) on their part investigated the structural relations among self-efficacy, academic aspirations, and delinquency on the academic achievement of 935 students from ten high schools in Australian, and came up with findings that verify the direct effect self-efficacy has on academic achievement.

Common among the above studies is the fact that self-efficacy has a vital role to play in determining students' academic achievement. The implication of these studies is that it is important to undertake research on the impact of self-efficacy on the achievement of students in general and of university students in particular. Few local studies (e.g. Ebabu, 2013) also indicate a strong positive correlation between university students' EFL writing self-efficacy and their academic achievement. This being the case, however, research studies that focus on this subject still seem scarce in the Ethiopian context, and as a result, while sizeable student failure, low academic achievement and grave complaints about course difficulty

are prevalent among PC1 students in Ethiopia, particularly at Jimma and Hawasa Universities, studies that aim to ferret out the self-efficacy of students at these universities in relation to their academic achievement seem hardly available. Therefore, this study attempts to fill the research gap by finding out the level of self-efficacy possessed by the target students and ascertaining its relationship with their academic achievement.

Objectives of the study
The main purpose of this study is to find out the perceived self-efficacy of PC1 students at Jimma and Hawasa Universities and to examine its impact on the students' academic achievement. The study specifically tries to:
- Identify the level of self-efficacy the target students possess regarding tackling the requirements of the various courses;
- Find out if self-efficacy predicts the students' academic achievement.

Significance of the study
This study is believed to be significant in the following ways:
- It would bring the relationship between self-efficacy and academic achievement to the attention of college heads, department heads and instructors in the field of medicine in the two universities, and encourage them to take necessary actions where students have low self-efficacy.
- It can help medical science students to develop positive self-efficacy since they will be taught by informed instructors who could assist them through suited-instruction and counseling.
- It can introduce insights to the field of medicine about the relationship between students' self-efficacy and their academic performances.

- It can initiate other researchers to carry out further studies on the subject of self-efficacy viz-a-viz academic achievement so as to replicate the findings of this study using different research approaches.

Scope of the study

The study focuses on PC1 students (students who repeated this level excluded) at Jimma and Hawasa Universities. To select the two institutions, Ethiopian universities training medical science professionals were clustered into two. That is, universities with 20 years and above practice (Gondar, Addis Ababa and Jimma) were categorized as having long experience in training medical doctors, while those which were carrying out this training for less than ten years (Mekele, Bahir Dar, Hawasa and Haromaya) were considered as having relatively short experience in this undertaking. On the other hand, PC1 was chosen for two reasons. Firstly, PC1 students, having accomplished the requirements of common courses, face vast major area courses for the first time, and this assumed to create some degree of frustration and anxiety. Secondly, the courses encountered at this level are vast in their coverage compared with the courses taken before. This can also trigger frustration, and students may believe that they cannot tackle these courses easily, i.e. they may think that they are incapable of fulfilling the requirements of these courses and pass the exams. This in turn could result in low self-efficacy which has a detrimental effect on their academic performance.

Limitations of the study

Although students of all disciplines could possibly face problems of self efficacy on their first encounter in major courses to some extent, this study focused on medicine students who considered their field of study more difficult to pursue than other fields. On the other hand, while there are other universities which train medical science students in Ethiopia, the study is confined to Jimma and Hawasa Universities. In Addition, it addresses only PC1 students in the program. These setbacks can affect the generalizability of the findings of the research to the whole medical science student population in the country, Ethiopia. In addition, while it was planned to establish the relationship between students' self-efficacy and their academic achievement, since results of PC1 students of Hawasa University were not obtained because of official reasons, the study focused on the relationship between the two variables for Jimma University students only.

Definitions of terms and symbols

- **Academic achievement** = Students' results on classroom tests and oral examinations aggregated out of 100

- **Intrinsic motivation** = Motivation that comes from inside an individual (the pleasure one gets from the task itself or from the sense of satisfaction in completing or even working on a task) rather than from any external or outside rewards, such as money or grades
- **Self-efficacy** = how confident students believe they are or how much control they believe they have in their ability to tackle tasks and exams in the PC1 courses.
- **JU** = Jimma University
- **HU**= Hawasa University
- **PC 1(Preclinical Year-I)** = the year when medical students are required to take biomedical sciences and relevant public health courses

RESEARCH METHODOLOGY
Research design
This study adopted a descriptive-correlational survey design that employs mixed methods approach which uses the mixture of qualitative and quantitative techniques in the research process (Cresswell, 2003) for two basic reasons: to achieve a fuller understanding of a given issue by combining both quantitative and qualitative methods and to triangulate/cross-check one set of findings against the other (Dorrnyei, 2007). On the other hand, descriptive research design, a method which involves observing and describing the behavior of a subject without manipulating it in any way (Babbie, 1989; Best & Kahn, 2003), was used to study behaviors that are observed, beliefs that are held, situations that are prevailing, phenomena that are occurring and trends that are developing. Thus, descriptive methodology was employed in this study to identify and describe the existing academic self-efficacy of the target students. On the other hand, correlational study which helps to identify relationships (positive correlation, negative correlation or no correlation) between two or more variables (Cohen, *et al*., 2002; Cohen, *et al*., 2007) was used in this study to measure the type and strength of correlation between students' perceived academic self-efficacy and their academic achievement.

Respondents
The respondents were 230 PC1 students randomly selected from Jimma and Hawasa Universities. These respondents participated in the study by filling out questionnaire.

Sampling techniques
Different techniques of sampling were used in this study. Firstly universities which have medicine students are purposively taken. Then, the two universities (Jimma University from the cluster consisting of Gondar, Addis Ababa and Jimma Universities) and Hawasa University (from the cluster made up of Mekele, Bahir Dar, Hawasa and Haromaya Universities) were selected using convenient sampling based on their proximity to the researchers. Then , systematic random sampling was used to select student representatives (taken from sampling frames obtained from the respective registrar offices of the two universities).

Instruments of data collection
To elicit data, two data gathering instruments: questionnaire and document analysis were used in the study. Questionnaire was chosen as a data gathering tool in this particular study for it is an appropriate instrument to collect data on a wide range of topics from a large number of respondents distributed over a wider area (Kumar, 1996), PC1 students at Jimma and Hawasa Universities in this case. On the other hand, document analysis was employed to gather data on students' academic achievement from registrar office sources.

Questionnaire
The questionnaire used in this study consisted of both closed-ended and open-ended items. Regarding the close-ended part, a 14-items self-efficacy scale used by Busch (1995) was adapted, and used to gather data from the target students on their perceived self-efficacy in accomplishing various academic tasks which the PC1 courses primarily require. This questionnaire uses a 5-Point Likert Scale with options ranging from '*Not Confident at All* (1) to '*Quite Confident* (5) and was modified so that it could measure academic self-efficacy. The questionnaire was then pilot-tested with selected PC1 students of Addis Ababa University. Based on the feedback from the pilot-test, few items of the questionnaire were reworked.

Document analysis
Document analysis is a detailed examination of documents produced across a wide range of social practices, taking a variety of forms from the written word to the visual image. However, the document analysis carried out in this research was not a large scale and rigorous one. It was used only to check students' overall results on the various PC1 courses at the end of the program for the purpose of computing the correlation between the students' self-efficacy and their performances on these courses.

Procedure of data collection
Data gathering was accomplished through the following steps: Firstly, a standard self-efficacy questionnaire was obtained and adapted for the purpose. Then, the questionnaire was pilot-tested with 30 PC1 students taken from Addis Ababa University. Based on the feedback obtained from the pilot study, the questionnaire was reworked slightly. Nextly, the consent of the relevant officials was obtained and the questionnaire was administered on-the-spot. However, document analysis was conducted much later after students had completed the requirements of PC1 evaluation (classroom assessment and oral defense).

METHODS OF DATA ANALYSIS
In this study, the following statistical tools were used to analyze the data. Firstly, to analyze the data gathered through closed-ended questionnaire regarding students' self-efficacy beliefs, descriptive statistical techniques such as percentage and mean were calculated. Secondly, to examine the relationship between students' academic self-efficacy and their actual performance on the PC1 courses, correlation analysis technique, which allows researchers to see the relationships that exist between two variables and evaluate the strength and direction of their relationship (Dornyei, 2007), was used. Finally, qualitative analysis was applied to analyze the data gathered via open-ended items of the questionnaire.

RESULTS AND DISCUSSION
This part deals with the analysis and discussion of the data collected via questionnaire and document analysis. Quantitative data are analyzed through the descriptive statistics of percentage and mean while the qualitative data are treated using qualitative techniques. First, the analysis and discussions of the quantitative data are presented. Next, the analysis of qualitative data is undertaken. Finally, the correlation between self-efficacy beliefs and performance scores is dealt with.

The quantitative data analysis and discussions
One of the objectives of the study was to identify the type of self-efficacy the respondents possess relating to tackling the requirements of PC1 courses (Gross Anatomy, Histology, Embryology, Biochemistry, Physiology and Environmental Health) were considered in the analysis. The data relevant to this objective were collected through questionnaire (both closed-ended and open-ended items). Whilst a total of 230 students filled out the questionnaire, some of them did not respond to the items meant to obtain data on self-efficacy of students in certain courses. Therefore, 226, 224 and 218 respondents replied to the items concerning Anatomy, Physiology and Environmental Health respectively, while the items pertaining to the rest of the courses were answered by all respondents (Table 1).

Table 1: Students' self-efficacy in learning PC1 courses (N=226, 230, 230, 230, 224 and 218 respectively)

PC1 Courses	Level of Self-Efficacy										Total		Mean
	Quite confident (5)		Confident (4)		Cannot Decide (3)		Slightly confident (2)		Not confident at all (1)				
	N	%	N	%	N	%	N	%	N	%	N	%	
Gross Anatomy	52	23.0	108	47.8	32	14.2	22	9.7	12	5.3	226	100	3.7
Histology	77	33.5	114	49.6	20	8.7	17	7.4	2	0.9	230	100	4.0
Embryology	69	30	88	38.3	36	15.7	24	10.4	13	5.7	230	100	3.1
Biochemistry	54	23.5	98	42.6	41	17.8	26	11.3	11	4.9	230	100	2.8
Physiology	49	21.9	98	43.8	43	19.2	23	10.3	11	4.9	224	100	3.8
Environmental Health	132	60.6	64	29.4	16	7.3	4	1.8	2	0.9	218	100	4.5

Table 1 depicts that most students, i.e. 108(47.8%) of the 226 respondents are confident in fulfilling the requirements of *Gross Anatomy* while the second majority of them, 52(23.01%), are quite confident. In other words, 160(70.81%) respondents have positive sense of efficacy in tackling this course. On the other hand, the majority of the students, 114(49.6%), and the second majority, 77(33.5%) of the 230 respondents, claimed that they are confident and quite confident respectively in passing the exams on the course called *Histology*. Here again, the number of students who possess high self-efficacy beliefs (181) is much higher than that of the students who have low self-efficacy (34). In relation to the course *Embryology*, the majority, 88(38.3%) and 69(30%) of the 230 students, respectively said that they are confident and quite confident. This constitutes 157(68.3%) of the respondents. The mean results (3.7, 4.0 and 3.1), on the other hand, indicate that the responses on average appear to incline to 'confident' for *Gross Anatomy* and *Histology* but 'cannot decide' for *Embryology*. This implies that students on average are confident to pass the exams on the two courses-*Gross Anatomy* and *Histology*. But, regarding Embryology, as the mean value indicates most students could not dare to say that they are confident. From this it is possible to infer that students have doubts to judge their capability on this particular course; and as a result it is not possible to say that students have a positive sense of self-efficacy.

The above table also illustrates that most of the respondents have positive self-efficacy as regards *Physiology*, 49(21.9%) quite confident and 98(43.8%) confident respectively, and *Environmental Health*, 132(60.6%) quite confident and 6 (29.4%) confident, in the stated order, with means inclining towards 'confident' (3.8) and 'quite confident (4.5) in the stated order.

However, the responses concerning *Biochemistry* show a different case. The mean (2.8) lies between 'cannot decide' and 'not confident at all' categories. This seems to imply that, unlike in other courses, there are many students who have less confidence in *Biochemistry*. This shows the students' low self-efficacy beliefs can affect their learning of this particular course (*Biochemistry*) and their subsequent achievements. Regarding this, Bandura (1997) explains that the stronger self-efficacy one has the more challenging goals he/she sets for him/herself and the firmer is his/her commitment to implement the goals. In other words, students who have low self-efficacy belief in a course (in this case (*Biochemistry)* may work against their becoming successful in learning the course and getting good results on the exam of the course. They, at the outset, can believe that they cannot be successful in learning the course; this belief can prevent them from putting efforts to learn the course.

In addition, the mean values show that students in learning the PC1 courses have disproportional self-efficacy beliefs. For example, while the majority students judged that they are confident to learn the PC1 courses such as *Gross Anatomy* (3.7), *Histology* (4.01), *Physiology* (3.8) and *Environmental Health* (4.5) (Table 1), in the case of *Embryology*, many students (3.1) could not decide the level of their capability to learn the course. Thus, it is necessary to identify the courses in which students show lack of confidence to learn and to put efforts in order to enhance their perceived self-efficacy to tackle the courses. From the above discussion, it is possible to conclude that students could not show that they have high self-efficacy beliefs to tackle the two course: *Embryology* and *Biochemistry*; so, instructors who teach these courses are required to give more attention to

enhancing their students' perceived self-efficacy in addition to teaching the courses. On top of that, in the other PC1 courses, in which the majority of the respondents showed positive self-efficacy beliefs, it is should be noted that although most of them are confident, still there are some students who posses low perceived self-efficacy in dealing with them. This indicates that among students there is no proportional self-judgment in tackling the courses. Meaning, while some students judged that they had high self-efficacy to tackle the courses, other students believed that they had low capability to be successful in learning the courses. Still, others could not judge their capability to tackle the courses. Thus, teachers are required to identify and help primarily students who have low self-efficacy, for example, through counseling and positive feedbacks.

Analysis of qualitative data

In addition to closed-ended items, the questionnaire included one open-ended item intended to allow the respondents to freely explain their beliefs or experiences as regards the courses they consider difficult and the underlying reasons that cause the difficulty. In response to this item, some respondents indicated that they were slightly confident or not confident at all in learning some PC1 courses (except *Biochemistry*), and gave details on the reasons for the perceived difficulty of the courses. Their responses are summarized as follows:

Some students considered *Gross Anatomy* as a difficult course. The dominant reason for the difficulty in handling this course is its vast coverage. Most of the respondents who labeled this course as difficult attributed its difficulty to the fact that it is too vast to cover before the final written and oral exams. For example, one respondent reported a view saying: "It takes a lot of time to read and it is difficult to cover it in a short period of time", while some others believed that the concepts which are abstract and hard to remember (some respondents referred these concepts as 'volatile') contribute to the course's difficulty. Other respondents claimed shortage of books and lack of facilities (inadequately facilitated demonstration rooms/dissection rooms) contributes to the difficulty of the course. Additionally, few respondents believed that some teachers who focus only on covering the course, not on simplifying it and ensuring learning, are also among the contributors to the challenge.

Histology and *Environmental Health* were also viewed as difficult courses by three respondents each, and the difficulties were attributed to different factors. Regarding *Histology*, for instance, one respondent expressed belief saying: "Because it [*Histology*] is a minor course, I concentrate on major courses", while another said: "Because the exam depends on the condition of the external oral exam" (this can mean that the student has negative anxiety about the oral examination and usually worries about whether he/she can pass it. Another reason that makes *Histology* difficult, as indicated by one respondent, is that it is hard to catch up with teachers' power point presentations. Generally, although very few respondents had difficulty understanding *Histology*, the responses are worth considering. Less attention to minor courses, negative perception towards oral examination and inability to catch up with power point presentations need due considerations. On the other hand, of the respondents who find *Environmental Health* difficult to learn, two said that the course is difficult because it is too vast to cover, but one believed that this course is difficult because success in the course depends on success in the oral examination. Still, oral examination seems to erode students' academic self-efficacy, and its unpredictability can be the reason.

Concerning *Embryology*, some respondents view it as difficult because there is shortage of instructors (instructors were not assigned in time), success depends on the oral exam and the course is too vast to cover before exams. The respondents noted that the bulky nature of the course coupled with late assignment of instructors resulted in a situation where teachers and students failed to cover the major contents in the allotted time. This is likely to cause frustration and anxiety in some students. Other respondents stressed that the fact that the course was offered by different instructors with different teaching methods and areas of focus made the teaching inconsistent. Following this, it was difficult for students to constantly concentrate on their studies. That is, sporadic teaching resulted in sporadic study behavior. Lastly, it was also mentioned that because *Embryology* classes started late, it was not possible to implement continuous assessment. This also can result in low self-efficacy among some students.

Physiology was the other course viewed difficult by some respondents. Shortage of time to cover this vast course was the reason repeatedly mentioned by most of the study participants. It was emphasized that there were instances where portions not covered during lectures appeared in the exams-this resulted in exam difficulty. Some respondents went to the extent of believing that much study has no value since success in the course depends on success in the external oral exam. Exam difficulty, high expectations of external examiners and bulky readings/handouts were also considered as factors that contribute to the difficulty of the course.

Generally, it seems that there is consistency between the quantitative and the qualitative findings. That is, the results from the quantitative data indicated that there were many students who lack confidence in tackling some of the PC1 courses (Table 1). Similarly, the qualitative findings showed that there were respondents who indicated that they were slightly confident or not confident at all in learning some PC1 courses; and they also tried to mention some of their reasons. From these, it is possible to conclude that lack of perceived self-efficacy can be mentioned as a problem for many PC1 students. Therefore, teachers, instead of focusing only on teaching the courses, are required to give attention to building the students' confidence.

Correlation between self-efficacy beliefs and performance scores

One of the objectives of the study was to examine if there was a relationship between the students' self-efficacy beliefs and their academic achievements. To this end, data were collected though questionnaire and document review, but although the respondents from Hawasa University indicated their result expectancies; their results on the different courses could not be obtained. Therefore, this part of the analysis depends on data collected only from Jimma University (Tables 2).

Table 2: Correlation between expected results and performance scores: *Gross Anatomy and Histology*

Courses	Statistical Measure		Expected grade	Obtained grade
Gross Anatomy	Expected grade Correlation	Pearson	1	.294*
		N	64	64
	Obtained grade Correlation	Pearson	.294*	1
		N	64	64
Histology	Expected grade Correlation	Pearson	1	.149
		N	64	62
	Obtained grade Correlation	Pearson	.149	1
		N	62	62

* Correlation is significant at the 0.05 level (2-tailed).

Table 2 indicates that there exists a positive correlation between the students' self-efficacy and their academic achievements. That means, the students' self-efficacy beliefs predict their achievement. In other words, students who rated their self-efficacy belief scored high in the examinations. It is necessary to note that the association that is observed between the students' self-efficacy and their achievements (.294) for the course *Gross Anatomy* is higher than the relationship between the two variables (.149) for *Histology*. This illustrates that there is a stronger relationship between the two variables (self-efficacy and achievement) for *Gross Anatomy*. Therefore, teachers who teach *Histology* are required to work harder to enhance their students' self-efficacy beliefs so that the latter can be successful in learning the course and score better grades.

Table 3: Correlation between expected results and performance scores: *Embryology and Biochemistry*

Courses	Statistical Measure		Expected grade	Obtained grade
Embryology	Expected grade Correlation	Pearson	1	.283*
		N		
			64	62
	Obtained grade Correlation	Pearson	.283*	1
		N		
			62	62
Biochemistry	Expected grade Correlation	Pearson	1	.348**
		N		
			64	62
	Obtained grade Correlation	Pearson	.348**	1
		N		
			62	62

  * Correlation is significant at the 0.05 level (2-tailed).
  ** Correlation is significant at the 0.01 level (2-tailed)

As it is shown in Table 3, there is a significant positive relationship between the students' expected grade scores and their performance. This shows that those who expressed high self-efficacy scored well in their achievement. In addition, the correlation coefficients for both *Embryology* (.283) and *Biochemistry* (.348) are high as indicated in the table. This points out that there is a strong relationship between students' self-efficacy and their achievements in these courses. Thus, in the teaching-learning process of the courses, teachers are required to foster this positive causal relationship.

Table 4: Correlation between expected results and performance scores*: Physiology, Environmental Health and CBTP.*

Courses	Statistical Measure		Expected grade	Obtained grade
Physiology	Expected grade Correlation	Pearson	1	.286[*]
		N	64	64
	Obtained grade Correlation	Pearson	.286[*]	1
		N	1	-.113
Environmental Health	Expected grade Correlation	Pearson	64	64
		N	-.113	1
	Obtained grade Correlation	Pearson	64	64
		N	1	-.113
CBTP	Expected grade Correlation	Pearson	1	.248[*]
		N	64	64
	Obtained grade Correlation	Pearson	.248[*]	1
		N	64	64

* Correlation is significant at the 0.05 level (2-tailed).

Here, again, it is possible to observe that there is a positive relationship between students' self-efficacy and their achievement pertaining to *Physiology*, *Environmental Health* and *CBTP,* whereas there is a negative association between the two variables in the course *Environmental Health*. This means that in the *Physiology* and *CBTP* courses, students' who rated higher self-efficacy beliefs scored higher in their examinations. However, in *Environmental Health*, those who scored high self-efficacy beliefs scored low in the examination on the course. Thus, it seems that there exists unrealistic self-efficacy beliefs/overconfidence among many students with regard to *Environmental Health*.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS
From the results and discussions presented above, the following conclusions are drawn:

- The quantitative findings indicated that most students have positive self-efficacy in *Gross Anatomy, Histology, Physiology*, *Environmental Health* and *CBTP*.
- The mean of the responses show that many students have low self-efficacy beliefs in *Biochemistry* and nearly half of them indicated that either they have low self-efficacy or cannot judge their capability to tackle the course *Embryology* (which means they are not confident).

- The qualitative part of the study revealed that some students have fear of external oral examinations, and they appear to attribute their success in PC1 courses to the nature of these exams and the expectations of external examiners.
- Results from the qualitative data indicated that some students perceive some courses as difficult because of their vast coverage, infrequent teaching and unpredictable external oral exams.
- The study revealed a positive correlation between the students' self-efficacy and their achievements with a stronger correlation for *Biochemistry*. However, the correlations between the two variables for *Gross Anatomy*, *Embryology*, *Histology* and *CBTP* are weak positive correlations. As indicated in Table 2, most respondents indicated low self-efficacy in *Biochemistry*. The strong efficacy-achievement correlation thus implies that the low self-efficacy resulted in low performance.
- However, the association between the students' self-efficacy and their achievement for *Environmental Health* is a weak negative correlation. But, it is necessary to note that the respondents expressed high self-efficacy in the course (Table 1). This means that students who expressed high self-efficacy scored low in the examinations on the course. Therefore, the inverse relationship between their efficacy beliefs and their results could be because of unrealistic expectations/overconfidence they possessed.

RECOMMENDATIONS
On the basis of the findings and the conclusions drawn from them, the following recommendations have been made:

- Most respondents possess low self-efficacy concerning the course *Biochemistry and Embryology*, and this resulted in low performance. Therefore, instructors who offer these courses should raise their students' self-efficacy through counseling and special support (e.g. tutorial programs).
- Conversely, the study disclosed a negative correlation between the respondents' perceived self-efficacy and their achievement (high self-efficacy vs. low achievement implying unrealistic result in expectancy) in *Environmental Health*. Therefore, instructors who offer this course should advise students to take the course seriously and form realistic expectations.
- Some students seem to have fear of external oral examinations. Therefore, instructors had better train their students to develop confidence and skills in taking these exams.
- Some students ascribe course difficulty to vast coverage and sporadic teaching. It is thus necessary that they develop effective time management and independent learning skills. To this effect, instructors, in addition to fulfilling their regular teaching responsibilities, need to create awareness among students on how to

manage their time and learn autonomously.

- It is necessary to conduct further research to discover further facts on the subject of academic self-efficacy viz-a-viz students' achievement in the Ethiopian context.

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