

## CHAPTER II

### REVIEW OF THE LITERATURE

In this chapter show about some topics related with the research. There are theories of perception, Students' perception, media and Instructional context.

#### **A. Perception**

Perception is one of the important psychological aspects humans in response to the presence of various aspects and symptoms around it. Perception contains a very broad understanding, involving internal and external. Various experts have provided various definitions of perception, although in principle they contain the same meaning. Perception is a response (acceptance) directly from something. A person's process knows several things through the five senses.

Perception as the way stimuli are selected and grouped, so they can be meaningfully interpreted. It is a person's view of reality. Perception as a mental and cognitive process that enables people to interpret and understand the surroundings. Another, perception is a global response to a stimulus or a set of stimuli. From those definitions perception is viewed as the response to stimulus or to surroundings. Then, these responses will be interpreted as meaningful information about stimuli.<sup>7</sup>

---

<sup>7</sup> Altman, *Organizational behavior: Theory and practice*. Orlando, Florida: Academic Press, Inc, 1985

Perception is the selection, organization and interpretation of sensory data. Further, perception will lead to the change of attitude, motivation and behavior. In conclusion, perception may create this outcome within individuals.<sup>8</sup>

### **1. The Process of Perception**

Perceptual process begins with attention, which is called selection process. Proposes that perception process involves the sensation process, which is the acceptance of stimuli through the sense organ and perception stage. The second stage is called perception, further step in observing the environment that is directed to know or to understand object and event.

Perception process define into three steps. First, there is selection on the stimuli by the sense organs. The second step is interpretation, the process of organizing information until he or she acquires meaning. This process is then followed by reaction. It is a form of one's behavior as a result of the interpretation process. The reaction can be positive or negative.

### **2. Factors Influencing Perception**

By seeing the definitions above, it can be inferred that perception is a process of someone's understanding and comprehension of the environment situation. Perception as a complex process depends on environment. During perception, knowledge about a world is combined with the perceiver's constructive abilities, psychologies and experience. A person perception is affected by her/ his expectation, motivation and previous experience.<sup>9</sup>

---

<sup>8</sup> Cook, "A structural equation model of dyadic relationship within the family system", *Journal of Consulting and Clinical Psychology*, vol. 62, p. 500-509.

<sup>9</sup> Davidoff & Hall "Family Fortunes: men and women of the work, with a substantial new introduction", 2002.

### **3. Factors that affect one's perception**

Factors that affect one's perception into two:

- 1) Internal factors that come from the students themselves, such as thought, feeling, willingness, sex, needs and motivation.
- 2) External factors that come from outside of students, such as educational background, experience, environment, culture, belief.

### **B. Students' Perception**

#### **1. Perceptions of Classroom Environment**

##### **a. The Nature of Perception**

Perception is the process that takes place within the individual that begins with the receipt of excitatory until it is realized and understood by the individual, so that the individual can recognize himself and his surroundings. Through perception, individuals try to rationalize the environment and objects, people and events in it.

Perception is an internal process to select, evaluate and organizes stimuli from the external environment. An individual perception on objects, events or relationships is obtained by inferring information and determine the message. The process involves the interpretation process based on the experience of an event or object.

Based on the definition above, it can be concluded that perception is a process of how a person is selecting, organizing and interpreting information inputs and the existing experiences and then interpreting them to create the whole description means. In other words, the perception is the way to change our physical energy of the environment into a meaningful experience.

Students' perception of teachers' knowledge of subject matter, attitudes to work and teaching skills is absolutely dependent on the fact that they have been taught by the teachers under evaluation and are familiar with them. They therefore, have minds already pre-occupied with memories and reactions that inventory for data collection will measure.<sup>10</sup> From the definition above, students' perception is how students' thought to response about what they have done or about what they learned.

Conversations are the ideal form of communication in some respects, since they allow people with different views on a topic to learn from each other. A speech, on the other hand, is an oral presentation by one person directed at a group. For a successful conversation, the partners must achieve a workable balance of contributions. A successful conversation includes mutually interesting connections between the speakers or things that the speakers know. For this to happen, those engaging in conversation must find a topic on which they both can relate to in some sense.

Conversation is systematically structured, and that there is evidence of the orientation of participants to these structures in the way in which they design their own conversational turns and react to those of others. Conversation consists of two or more participants taking turns and only one participants speaking at any time.<sup>11</sup> Conversation is mainly about talking. Conversation analysis is a linguistic discipline that mainly handles coherence and sequential organization in discourse, for

---

<sup>10</sup> Adediwura & Tayo, "Perception of teachers' knowledge attitude and teaching skills as predictor of academic performance in Nigerian secondary schools", *Educational research and review*, vol. (2), 2007, p. 165-171

<sup>11</sup> Fairclough, *Language and power*, London: Longman, second Edition, 2001.

example the opening and closing sequences. The openings and closings of conversations were examined by its findings. It was observed in empirical studies how they are produced and understood. Recurring patterns were searched for and theory developed from them. Conversation analysis claims that the existence of certain mechanisms that guide our conversations.<sup>12</sup> Conversations have two levels of organization: a local management system and an overall organization.

The overall organization contains the organization of topic talk other parts of conversations. In overall organization than the topic talk are the opening section and the closing section. Meanwhile, the local management system is the one that makes conversation works.

Likewise, in an EFL setting, teachers need to understand their students' motivation and learning objectives. This is particularly true of adult learners who have come to an English speaking country to study and are therefore likely to have important reasons for doing so. Adult learners have expectations and pre-conceived ideas based on previous learning.<sup>13</sup>

Therefore, it is important for teachers to gain a deeper insight into their learners' beliefs and needs. It is clearly beneficial for teachers to better understand their students' previous learning, motivation and objectives as well as attitudes towards and perceptions of language and language learning, in order to inform classroom practice. Furthermore, there is evidence to suggest that learners' own beliefs may affect their success in language acquisition.<sup>14</sup>

---

<sup>12</sup> Levinson, *Pragmatics Cambridge New York: Cambridge university Press*, 1983.

<sup>13</sup> Jeremy, *The Practice of English Language Teaching. Pearson Education*, 2007.

<sup>14</sup> Cenoz, and Garcia Lecumberri, "The Acquisition of English Pronunciation: Learners' views", *International Journal of Applied Linguistics Abstracts*, vol. 9, 1999, p. 3-17.

Each Student has different expectation of teachers talk. For some, teachers should speak slower or faster, or whether teachers should use L1 more than L2 or vice versa. Regarding those problems stated above, the researcher felt the need to explore students' perception towards teacher's talk, as the first step to overcome the problems. In this way teachers can adjust their properties of talking to students' perceptions and expectation.

### **b. The Nature of Classroom Environment**

The classroom environment is the setting in which students' learning takes place. It concerns the classroom's physical environment, the social system, the atmosphere and norms and values. Studies conducted in different regions of the world have shown that classroom climate as one of the most important predictors of students' achievement.

The classroom environment acts as a symbol to students and other regarding what teacher's value in behavior and learning. If a classroom is not properly organized to support the type of schedule and activities a teacher has planned, it can impede the functioning of the day as well as limit what and how students learn. To create an effective, efficient, and pleasant learning environment, it is important to establish, teach, and enforce reasonable, culturally sensitive, and developmentally appropriate classroom rules that promote your students' learning, socialization, and safety.

Besides making rules and procedures, effectively a class manager (teacher) also showed attention to the students to make the students will feel comfortable and be treated fairly. However, a well-arranged classroom environment is one way

to more effectively manage instruction because it triggers fewer behavior problems and establishes a climate conducive to the learning.

### **c. Students' Perception of Classroom Environment**

Students' perceptions of dimensions of their classroom social environment, including affiliation, cohesion, fairness, mutual respect, and support from teachers and students, are associated consistently with adaptive motivational beliefs and achievement behaviors. It means the way we look at situations, places, and things reflects the way we view the world and influences the conclusions and decisions we make.

Research conducted over the past 30 years has shown that the quality of the classroom environment is a significant determinant of student learning. That is, students perform better and have more positive attitudes toward the subject taught when they perceive the classroom environment positively. Students' perceptions of school events, the nature of teachers' expectations and the patterns of interaction between students and teachers have an impact on their academic attitudes and behaviors.

Thus, in order to stimulate and optimize student learning and the environment in which they learn knowledge of students' perceptions of this environment and the factors that influence these perceptions is crucial for both teachers and educational researchers.

Research on students' perceptions of their classroom environment should focus on several goals. Establishing associations between student outcomes and perceptions of the classroom environment.

- 1) Investigating differences between and within teacher and students' perceptions.
- 2) Investigating if students perform better in their preferred classroom environment than in other environments.
- 3) Studying the effects of student characteristics on classroom environments and of classroom environments on curriculum development.

#### **d. Factors Affecting Students' Perception of Classroom Environment**

There are several factors that affect perception, namely:

##### **1) Performers Perception**

The interpretation of an individual to an object will be heavily influenced by personal characteristics, such as attitudes, motives, interests or interests, past experiences, and expectations. Needs or motives stimulate individuals who will not be satisfied and have a strong influence on their perception. For examples such as a builder will pay more attention to perfection if people than a cook, a man preoccupied with personal problems can be hard to devote attention to other people, etc. shows that influenced by interest. Similar to interest to pay attention to new things, and perception of those traits regardless of their actual.

##### **2) Targets or objects of perception**

Movement, sound, size, and other attributes of the target will shape the way we view it. For example, an image can be viewed from different perspectives by different people. In addition, adjacent objects will be perceived together anyway. Examples are accident twice in ice skating rink in a week can make a perceive ice skating as a sport is dangerous. Another example is the tribe or the same sex, likely perceived to have the same or similar characteristics.



### **3) Situation**

The situation also affects the perception of us. For example, a woman had reason might not be too 'seen' by the man when he was in the mall, but if he is in the market, it's quite possible that the men would see. The factors that determine the perception are divided into two, namely: functional factors and structural factors.

#### **a) Functional Factors**

Functional factors are factors derived from the needs, past experience and other things which include what we refer to as personal factors. Factors that determine the perception is functional objects that meet the individual goals that do perceptions. Determining the perception is not a form or type of stimuli, but the characteristics of those who respond such stimuli.

### **C. Media**

#### **1. Media**

Teaching aids are valuable instructional tools that can help make learning more effective and interesting. A range of objects, pictures and other things that can be used as instructional media to present and manipulate language and to involve students in the activities. Popular *print* media offer good opportunities for improving learners' reading and writing skills in particular. Popular *electronic* media provide teachers with excellent resource for improving language skills, such as listening and speaking. It means that there are so many medias that can be used in eaching listening.

#### **2. Instructional Media**

Instructional media refers to devices and materials employed in teaching and learning. It includes hardware like blackboard, radio, television, tape

recorders, video tapes and recorders and projectors; and, software like transparencies, films, slides, teacher-made diagrams, real objects, cartoons, models, maps and photographs.<sup>15</sup>

Instructional media encompasses all the materials and physical means an instructor might use to implement instruction and facilitate students' achievement of instructional objectives. This may include traditional materials such as chalkboards, handouts, charts, slides, overheads, real objects, and video tape or film, as well newer materials and methods such as computers, DVDs, CD-ROMs, the Internet and interactive video conferencing.<sup>16</sup>

Instructional media are generally designed to provide realistic images and substitute experience to reach curriculum experiences. The media are considered the most efficient facilitators in the education set up. They are not substitutes for the teacher. Their use however, calls for an imaginative approach by the teacher who needs to constantly be on the alert for new ideas and techniques to make the lessons presented with different instructional media achieve effective outcomes.<sup>17</sup> Instructional media are the various materials that appeal to the five senses- seeing, hearing, touching, feeling and tasting which enhance teaching and learning.<sup>18</sup>

---

<sup>15</sup> Asare Opoku, *Using Non-Book Instructional Materials to Promote Teaching and Learning in Ghanaian Primary Schools-Rhetoric and Reality*, MPhil.Thesis, University of Sussex Institute of Education, 2000.

<sup>16</sup> Talabi, *Educational Technology*, Accra Universal Press. The World Book Encyclopedia U.S.A: Onyx, 2001.

<sup>17</sup> Scanlan, *Teaching & Learning Centre*, University of Saskatchewan, Vol. (82), 2003.

<sup>18</sup> KwartengNyame, "Towards Effective Teaching and Learning of Environmental and Social Studies". Kumasi: Golfrin Hi-Tech Ross, 2006.

In other words, they are the collection of materials and equipment that can be used effectively for communication. These materials are used in the planning process of giving instruction. Instructional media with its various types affect different senses and act as an integral part of teaching and learning process, and thus helping to bring about meaningful experiences. In this study, instructional media refers to models, real objects and other materials in addition to the chalkboard and textbooks that are brought to the teaching and learning process to induce understanding.

### **3. Criteria in Choosing Teaching Media**

The selection of teaching media/ material is an integral part of curriculum planning and delivery in schools. In teaching media, there are some aspects that teacher or listener should know. The media should directly relate to a curriculum policy and program on the departments' framework standard and relevant for students. The media also support an inclusive curriculum thus helping students to gain awareness and the importance of respectful relations with the other. The media also can motivate students to examine their attitudes and behavior. The media are relevant for the age of students for whom they are selected. The media provide opportunities to develop the critical capacities. The media should represent a range of views on all issues.

Reiser and Dick suggest principles in applying instructional media. First, the instructional media should be practical. It means that teachers should consider the availability of the media and the practicality of the media, whether they are easily used in the instructional environment, and what will be the time and the

cost involved containing in obtaining them. Second, the instructional media should be appropriate to the students' characteristics because they perceptions about the media will affect their learning. The last, the instructional media should be a good means of presenting a particular instructional activity. It means that the media should support the activity that will be presented in the classroom.

The international society for Technology in Education (IESTE) has developed standards for technology use in Education. It provides guidance for teachers in the following areas; (1) Facilitating and inspiring student learning and creativity, (2) Designing and developing digital-age learning experiences and assessments, (3) Modeling digital-age work and learning, (4) Promoting and modeling digital citizenship and responsibility, (5) Engaging in professional growth and leadership. However, instructional media must be accessible and easy to use.

#### **4. The Function of Teaching Media**

There are some advantages or importance of the media. One of the advantages of using media is that media can motivate students in learning activity. Some media can be used to invite students' attention and to arouse their curiosity by presenting various images and sounds. Media can be used to present information that is needed to deliver the message to the students. Instructional media gives students' required experiences to build their prior knowledge.

Educational researchers and practitioners alike assert that the potential of new technologies for learning is likely to be found technologies are used as tools for learning. Sign and Means stated that in literacy instruction, technology has both traditional and authentic uses. An authentic use of technology is using it as a

tool to accomplish a complex task; for example, students who are creating a written report might use the Internet for research, word-processing software to write and format the text, and hypermedia software to add images.

Medias are useful in the process of language teaching. Instructional media as medium that is used in instruction to deliver material to the learner. The media include film, television, radio, audio recording, and photograph. It makes sense to consider the variety of uses as they illustrate best practices. Video is the technology to capture, record, and process, transmit and rearrange the moving picture also video can use for tutorials, videos for learning, and even videos for entertainment or for documentation of activities. It means in teaching English language we can use video to make students not bored and like to study English language. More and more video are being produce for language teaching, in other hand, teacher can use video to help students become better speaker in English. It means they can see what it looks like and sound like.

### **5. Television Program as Instructional Media**

A lot of means can be made for instructional media, involving television program. Using television in the classroom allows the students access more information when listening. That is, the students can now see what is happening as well as listen to the text. Many students spend at least four hour at home viewing television. They adopt the language from viewing television because vision and auditory support can highly motivate viewers. However, television program can be still used as instructional media even more effective for language learning. Sands say that human being can learn faster and easily by audio visual processes than by verbal explanation only. In line with this states that it might be easily

while seeing and hearing simultaneously, than seeing only or hearing only. Therefore, television program which combines audio and visual can be effective media for teaching as long as the program is selected carefully in order to applicable in the classroom.

Learning is a process to acquire knowledge. It needs hard work and sometimes will make students frustrated and get bored, so that they lose their attention to a lesson. In this case, the use of media in teaching- learning process is needed to attract students' attention and to make teaching- learning activities more interesting and also effective. The use of media in teaching- learning process is not a new thing. Many teachers know that media will be helpful. Media give students something new, but not all of teachers know how to implement it correctly, so sometimes media disturb learning process instead of helping students in learning process.

Media are the means for transferring or delivering messages. Media is called the educational medium when the medium transfers message for teaching.<sup>19</sup> The use of media is important and it is impossible to coordinate teaching with learning without using media.<sup>20</sup> Media are flexible because they can be used for all level of students and in all subjects. Teaching media also can encourage students to take more responsibility for and control over their own learning, engage in joint planning of the syllabus, and take longer-term perspectives on

---

<sup>19</sup> Ling -Li, "The Importance of Educational Media in Teaching Buletin of Social Education", Vol 20, p. 61-68.

<sup>20</sup> Ling -Li, "The Importance of Educational Media in Teaching Buletin of Social Education", Vol 20, p. 61-68.

their own learning.<sup>21</sup> Since media give many advantages, a teacher should consider a medium to be used in teaching- learning process.

Media are tools which are provided and brought by the teacher into classroom to facilitate teaching-learning process. Teaching media are all physical devices which can present message and simulate students to learn. Thus, using media in leaning are expected to help teacher present the lesson more clearly and interesting to be followed by the students. Instructional media as the physical means by which instruction is delivered to students. Thus, the definition of media includes all of the traditional means of delivering instruction (including teachers, chalkboard, textbooks and other printed media such as pictures, posters etc.), as well as the newer instructional media such as computers, CD-ROOM, interactive video and multimedia system. From the discussion above, it can be conclude that media are everything that can help teacher to deliver the lesson (message) to the students to make the lesson clearly in order to the students can catching the point.<sup>22</sup>

## **6. Media Can Help Students and Teacher**

The presence and availability of teaching media are expected to help teacher and students to solve learning obstacles. Media have four functions. They are as follows:

- 1) Media can attract students' attention more so that it can stimulate learning motivation.

---

<sup>21</sup> Masterman. *The Importance of media in Teaching*. London: Olyver and boyd Ltd, 1999.

<sup>22</sup> Robert A Reiser, "*instructional Planning: A Guide For Teacher*", USA: Library of Congress Publication Data, p.68, 1996.

- 2) Media can make subject matter clearer and more meaningful so that it is easily understood by the students and enable them to master the expected competence better.
- 3) It can make learning method more various not merely verbal communications through teacher's words so that students does not get bored and the teacher does not run out of energy.
- 4) Media can make students do more learning activities because they do not only listen to teacher's explanation but also have other activities such as observing, demonstrating and so forth.

### **7. Kinds of English Teaching**

Media In educational technology definition, media as learning resource is a component from instructional system besides message, person, background technique and tool. In English language teaching as foreign language, media is very necessary to use for some reasons. Instructional media helps teacher in teaching- learning process and arranging the time well. The availability of media in the class will influence students' learning spirit where the selection of appropriate media is available to improve students' ability in speaking. The following are three types of language teaching media.

### **8. Visual Media**

Visual aid in visual instructional concept is every picture, model, object, or other tools which give real visual experience to the students. The visual aids aim at:



- a) Introduce, form, enrich, and clarify comprehension or abstract concept to the students.
- b) Develop desired behavior.
- c) Support students' more continuous activity.

Basically, visual media in learning is everything can be seen by eyes and brought into class room as visual teaching media to support learning process run well. There are four types of visual media; they are printed media, realia, overhead transparency and LCD projector.

#### a. Printed Media

The making process of these is through printing process. These media include English text books, magazines, newspapers, journal, bulletins, and dictionary. The use of these media in teaching English is necessary and meaningful because it can help learners to get more knowledge and information through reading widely, and provide more enjoyment from various sources of facts. Besides, there are also other kinds of printed media. They are graphic media. These media are in the forms of photographs, graphics, pictures, maps, models, game, puzzle, wall charts, comic script, flash card or cue card, brochure, poster, etc.

#### b. Realia

Realia are real objects which can be brought into the classroom as teaching media. It is a real or imitative object brought into classroom as visual teaching media. There are many kinds of realia, some of them are as follows: Big calendar, puzzle or game, menu of restaurant, big map or globe and hand-puppet.

c. Overhead transparency (OHT) and LCD projector

The uses of these media enable a teacher to write or describe or explain something to the students. In English learning, these media can be used to present video and pictures.

### 9. Audio Media

Audio media is instructional media that have function to help students' learning through produced voice. Audio media are the media of which the contents are recorded and can be heard.<sup>10</sup> By produced voice, students can identify the intonation and pronunciation without live presence of native speakers. These media include radio, tape recorder, audio compact disc, MP3, MP4 etc.

Audio-visual Media Audio-visual are the media which can be seen and heard such as television and film. Audio-visual presents complete communicative situation. The students can be easy to understand the facial impressions, gestures, physical background shown and learning becomes closer to real life situation. It is very important to preview any program and assess its worth to class situation, time, and its content value and how to operate it more effectively to benefit all children in learning the content. These media include film, TV program recorded both picture and voice on video CD.

To use the media mentioned above, it is important for the teacher to select appropriate media available and interrelates the components to the curriculum because each media above has their respective strength and weakness in using them.

## 10. How to Choose the Instructional Media?

It is unquestionable any more about the importance of the presence of instructional media in the classroom when the teacher are presenting a lesson to make the lesson or material being taught clearer, easier and more interesting. But, before deciding to choose the instructional media to be employed, the teacher must be really selective and considered some factors. There are three factors which should be paid more attention by the teacher before choosing the instructional media. They are:

- 1) **Practicality.** To provide and prepare the instructional media, sometimes the teacher encountered difficulties so that the teacher should think and look for the practical media which are easily available in the school or in a shop if he/ she wants to buy them. Besides, the teacher should the practicality to bring and to use them.
- 2) **Students' characteristics.** The students in the classroom are different so that it is important for the teacher to consider whether or not the media to be used are appropriate in light of the characteristics of the students' characteristic.
- 3) **Instructional activities.** Many kinds of instructional activities which could be designed by the teacher in order not to make students bored in following the activities. Therefore, different activities must be aided by different instructional media in order that the activities are varied and interesting to follow.

### D. Instructional Context

Instructional context, as conceptualized here, refers to any features that characterize a specific teaching situation. These features may include for example the subject matter, the learning content within a subject or the placement of a

lesson in an overall instructional unit. Lessons may also differ in their instructional aim and focus mainly on either the introduction of new concepts or on application, exercise, or consolidation.

It can be assumed that features of a particular lesson influence teachers' strategy promotion. It found that the number of suggested strategy varied depending on the subject matter of the observed lessons. Elementary schoolteachers in classrooms that involved mathematics and language teaching made more suggestions for strategy use than teachers who were only observed during language instruction. Also the pattern of specific types of taught strategies was different in those two kinds of curricula.<sup>23</sup>

For example, use of specific aids was the most frequently taught strategy in mixed curricula whereas in language instruction deduction strategies were taught most often. However, in a study on middle school level, teachers instructing different subjects (math/ science or English/ social studies) did not differ in their coaching of learning.

In the context of the German-Swiss video study *Quality of Instruction, Learning, and Mathematical Understanding* compared lessons from two different instructional units in mathematics with regard to aspects of adaptive teaching. In lessons on the Pythagorean Theorem that were part of an introductory unit on this theme students were more often given the opportunity to self-control their results, compared to lessons on word problems where practice was the instructional aim.

---

<sup>23</sup> Moely, Hart, Santulli, Leal, Johnson, Rao, et al, "The teacher roles in facilitating memory and study strategy development in elementary school classroom", *Child development*, vol. (6)3, 1992, p. 658-672.

However, for other aspects of adaptive teaching no differences between the two instructional contexts were found.<sup>24</sup>

In sum, results concerning teacher behavior in different instructional contexts are inconsistent. In this study, we follow and compare the same introductory and practice lessons with regard to the promotion of learning strategies. It can be assumed that much strategy teaching takes place in introductory units to provide students with strategies that are especially useful for dealing with the new learning content.<sup>25</sup>

Following cognitive psychological research, elaboration and organization are appropriate strategies to foster knowledge acquisition. In mathematics lessons in which a new mathematical concept is introduced it seems reasonable to focus on elaboration and organization to help students to acquire new content and to build up an understanding of the new concept.<sup>26</sup>

The teacher may for example activate the students' prior knowledge and ask them to form connections with the new content or let them formulate the new content in their own words. Also, structuring the new learning content may be an appropriate strategy during this learning phase. Thus, introductory lessons provide a high potential to advise students on cognitive strategies and to practice these strategies with them.

---

<sup>24</sup> Hugener, "Teaching patterns and learning quality in swess and german mathematics lesson learning and instruction", Vol. (19), 2009, p.66-78.

<sup>25</sup> Hugener, "Teaching patterns and learning quality in swess and german mathematics lesson learning and instruction", Vol. (19), 2009, p.66-78.

<sup>26</sup> Pokay & Blumenfeld, "Predicting achievement early and late in the semester: The role of motivation and use of learning strategies", Journal of Educational Psychology, Vol. (82), 1990, p. 41-50.

On the other hand, strategy teaching also makes much sense in practice units, when students have opportunities to apply strategies themselves. In mathematics lessons that aim at practicing familiar tasks learning can be arranged more students directed compared to situations when completely new content has to be learned.

When students are already familiar with the learning content, it is appropriate to employ meta cognitive strategies.<sup>27</sup> Students are supposed to learn how to deal with tasks independently and to become more and more confident in doing so. In practice lessons teachers may advise their students to systematically how to approach the tasks and to monitor and evaluate their progress. For example, to self-test their current mastery of the tasks. Thus, practice lessons are potentially suitable for providing students with meta cognitive strategies and opportunities to practice them.

Taken together, both instructional contexts contain a high potential for strategy promotion. Following the argumentation above we assume that introductory and practice lessons differ in the teaching of cognitive versus meta cognitive strategies.

While the amount of cognitive strategies should be higher in introductory lessons, the amount of meta cognitive strategies is supposed to be higher in practice lessons. Regardless of the total amount of strategy teaching, which is supposed to vary between contexts, teachers are still assumed to be consistent in

---

<sup>27</sup> Pokay & Blumenfeld, "Predicting achievement early and late in the semester: The role of motivation and use of learning strategies", *Journal of Educational Psychology*, Vol. (82), 1990, p. 41-50.

their tendency to teach strategies across contexts in terms of correlations between contexts. This assumption does not have to be in contradiction to our previous assumptions on differences between contexts.

Teachers may focus more on for example elaborations strategies in introductory lessons compared to practice lessons, but the rank order of the different teachers may stay the same for both contexts. In this case, the more elaboration strategies a teacher teaches in introductory lessons, the more he or she also does in practice lessons when compared to the other teachers, even though the total amount may be higher in the introductory lessons.

