2010 ERIES JOURNAL

Journal on Efficiency and Responsibility in Education and Science

ERIES Journal

Table of Contents

ISSUE 1

JOURNAL ON EFFICIENCY AND RESPONSIBILITY IN EDUCATION AND SCIENCE

Aims and Scope

The Journal on Efficiency and Responsibility in Education and Science aims to publish perspectives of authors dealing with issues of efficiency and/or responsibility in education and related scientific disciplines. The focus is on topics such as:

- theory and methodology of pedagogy and education;
- theory and methodology of science;
- human resources and human relations management;
- knowledge management and knowledge engineering;
- systems engineering and information engineering;
- quantitative methods.

The journal accepts quantitative, qualitative and experience-based full research papers, short communications or review studies. Applications and case studies introducing and describing impacts of new theoretical approaches in real conditions of practical case are also accepted.

All papers passed a double-blind peer review process.

'THINKING SKILL' – THE MAIN LEARNING TOOL

Daniela Koteková

Czech University of Life Sciences Prague

kotekova@pef.czu.cz

Abstract

The paper deals with an innovative method of foreign language learning in a university environment. The method of teaching with help of four elementary skills - reading, speaking, writing and listening is definitely inconceivable to teaching any foreign language. But automatic answers following the exercise and students' passive memorising does not make speaking language and its learning very natural. This has forced me to find and create the way how to make learners think and realise the point and meaning of learning itself. My paper is about special skill I have tried to apply – 'thinking skill'. I have chosen it to complement other four which teacher normally uses when teaching foreign language (reading, speaking, listening skills). At the same time I put 'thinking skill' into a role to support and enhance learning process. To find and use some methods how to make students think, make their own opinion and also teach them to apply their own experience to learning process was the main goal of this survey. The methods I have applied were provoking students to think before they learn.

Introduction

The present study introduces an application of several methods to engage learners' thinking into learning process. Drawing on some of L.S.Vygotsky's theories I based my approach on "making and finding logical relations to remember a concept" thus naturally apply thinking. Also E.De Bono's "lateral thinking" was great theoretical base to fulfil demands of my survey. By supporting "creative thought" (E.De Bono, 1970) he also supports the individual's originality and skill in making different views and opinions on a certain subject.

I have experienced teaching for several years by now and I gained an important although a well-known knowledge. Students find learning a very difficult process. I think it is because they do not rely on their thinking, they only memorise the texts and information they are asked to know. David Perkins (1992, New York) describes what happens at schools very nicely: "... first students acquire knowledge. Only then do they think with and about the knowledge they have absorbed."

My survey here suggests a certain way how to try to make students think before they learn and thus get to "learning as a consequence of thinking" (Perkins, D, 1992, New York [on line]). Individual methods were applied on smaller classes of students of University of Life Sciences, were English language is not the main focus of their studies but still an inseparable subject. Level of taught English is pre-intermediate which means quite basic one since majority of students have left secondary schools with very poor knowledge of this language.

I usually start my lessons by a "warming up" exercise – questioning 'how they are'. Practising speaking skill from the very beginning gently prepares them for the learning process. I ask them one simple question "How are you today?" . I have usually received a very quick and obvious answer "I am fine".

But then a big surprise wakes students up. I ask them "Why are you fine? And the challenge is set. Students do not know what to answer. They've never thought of having to think of a reason "why" or what is more sad, they're just used to conventional and not devoted answers. And there comes the theory of E. De Bono's "lateral thinking". He believes that "the student should explore different ways of examining a challenging task, instead of accepting what appears to be solution". Applying this approach I did not let students to get away with such a quick and obvious answer. According to E.De Bono "lateral thinking is clearly seated in the cognitive domain". Drawing on it I asked students to explain their reason for such feeling.

Nevertheless our – teachers'- challenge is set – to support "individual's originality and skill" (E. De Bono, 1970), to provoke students thinking, to teach them to have their own opinion, how to interpret and understand studied material by having them explain things and situations thus deepen their cognition and learning itself. I put learning into position where if students do not think, they will not learn. I think that without this skill any kind of learning is impossible. Unfortunately in a process of teaching foreign language teacher often has to remind students this inseparable part of learning.

Methods

READING (COMPREHENSION)

Teachers often hear students struggling to express their thoughts. It happens because they suffer from lack of vocabulary or they are not used to applying their own thoughts to explain something. I have worked on solving both of these problems and my focus was put on 'thinking' as an accompanying and inseparable tool to learn, on "learning as a consequence of thinking"(Perkins, D , 1992, New York). I found reading and analysing the texts as one of the ways which supplies learners with new vocabulary. By analysing and discussing the article we help students not only to gain new vocabulary but also stir their thinking processes. (Kotekova, D., 2009), "Reading comprehension-tool to improve speaking skill", ERIE 2009).

METHOD: INDIVIDUAL APPROACH/WORK OF STUDENTS – FORGOING TEACHER'S GUIDELINESS.

I have chosen this approach to separate students 'work and especially their thinking process from the automatic following teacher's guidelines. The teacher's task is to identify problems of students' thinking. Those, on the other hand working alone, without teacher's instructions will have to rely only on their own way of thinking. They have to read the article themselves and solve the given tasks.

Their main task is to analyse the text including creating the main point of the article, discussing the content and pointing out the most important ideas. Students are not told to give their own opinion but this is part of teacher's survey. He watches the learners 'approach if any of learners includes it without

reminding them to do so. Solving the specific task students can use dictionaries.

Researchers have identified a number of strategies to stimulate thinking in learners. When reading in the second language is taught, teacher should put the focus on "reading for sense to comprehend the overall meaning of a story". The main procedure of this method is to "identify and compare basic story elements, look for useful key sentences and use them as a tool for summarising the text" (Victoria White, [on line]).

This point of a teacher's plan has got its important role. The individual approach of students without any assistance helps teacher to identify specific needs concerning learners' thinking. Teacher observes the way students solve the task. Their answers show him the way they think, how they have approached the text, how many words they have quoted from the text and how many they have managed to substitute with synonyms and tell them using their own words. Their mistakes will tell teacher where the problem of thinking lies.

PROBLEM DEFINED:

When students start analysing the article, they usually begin reading and repeating the very same lines from the text itself. They do not try to find other words to say the same thing in a different way. They blindly quote the text. They do not even try to say the sentences themselves, they read them. Seven students out of ten quoted the text word by word when looking for the main point. Two of them tried to change the sentence a little bit and only two of the learners used synonyms. Sharing their own opinions was not even tried to be included in their work. Slight thinking process was observed only in 4 students out of 20.

RESOLUTION:

Teacher proceeds by correcting and explaining mistake by mistake. The main task for students was to create the main point of an article.

1. After mistakes recognised he explains them that title usually hides the content itself thus making the point of the article.

2. To avoid quoting the same words and lines students are told to substitute the words of the title by synonyms.

3. At the same time when they try to explain the title in different way, they would actually begin analysing the content as well.

4. By explaining the words learners naturally start using their mind and connecting knowledge they have with the content in the text. They can discuss and compare their own experience which is very important in thinking process. They find out themselves what the article is about and what lies behind the story, etc.

   All these activities are supported by teachers questioning. Question "what do you think about it?" should not be omitted.

   Certain advice must also be given and emphasized in the way they make their expressions.

5. Learners often use and repeat long sentences straight from the text. They do not try to make their own.

   Students should be advised to simplify and shorten their expressions; they should avoid making long, compound sentences. Making the sentence in a basic English structure 'subject-verb-object' will make it easier for students to remember and quote their own utterances.

6. To finally tell the point of an article I use one practical advice that usually helps students very much. I tell them to imagine they want to recommend the article to someone. So they must tell the person why he/she should read it, what the reasons are. In this way students naturally made sentences in a much simpler way than when trying to tell the content.

Pointing out and explaining all students mistakes followed by correcting and answering, supports and develops learners' thinking process. It also helps students to start making their own opinion (especially when giving recommendations) and find connections in their experience which is often absent in their answers.

Learners work on another article proceeding the suggested way.

TASK FOR STUDENTS:

   ANALYSING the article – figuring out its point from content

   QUESTIONING THEMSELVES - activating background knowledge, giving their own opinions

   EXPLANING – finding synonyms, using them to explain ideas

   RECOMMENDING THE ARTICLE to someone they know

   GIVING REASONS FOR EVERY OPINION

   SIMPLIFYING – avoiding making long and compound expressions

After completing it we notice a difference in their approach and even some progress in awakening their thinking.

SPEAKING (DESCRIBING)

Speaking foreign language is definitely the main aim of the whole process of learning it. When students learn language, they are not only engaged in absorbing and memorising new grammar facts and vocabulary but they are also involved in the process of thinking about what they say and why. According to G. Wells (1994 „distinctive characteristic of human learning is that it is a process of making meaning – a semiotic process". „Making meaning" is closely related to explaining and describing what students see, feel or have on their mind.

 One of the best ways how to practise this skill is to start describing. What we describe is not so important as how often we decide to describe, of course using foreign language. I would say that any kind of activity is suitable e.g. walking in the streets, shopping, cooking at home those all are activities which we naturally do every day and which we can use as a main tool to practise speaking. If we practise talking about our daily activities, we definitely have to use 'thinking tool".

METHOD 1: DESCRIBING ACTIVITY
For students sitting in the class the simplest activity to describe is the most present one. We soon find out that even such simple activity can cause troubles. Describing the present situation-sitting in the class is one of the suitable ones. They can use for example: "I am sitting at school at the moment. I am also trying to say some words. I am talking to my teacher. My class mates are looking at me while the sun is shining. My teacher is waiting for my answer, etc." 'Making meaning-semiotic process' (G.Wells, 1994) has been encouraged.

Part of this method is of course giving students their homework where they choose for example a favourite part of the day and they describe activities they do or they describe only one activity, for example 'food shopping' but in every detail. They will have to mention every single activity that brings them to the shop, that makes them buy things and that also brings them back home with food.

A very positive view was expressed when doing this homework. Students found themselves in quite peculiar and funny situation when describing their food shopping. Majority of them ended up buying only food they could name in English. Another funny situation was that coming back home the first thing they did was taking dictionaries and looking up the words for groceries they did not buy because they did not know their name. Students said that they kept repeating translating their list of food supply and after a few times of shopping they managed to bring home most of the things they needed.

Another good idea how to strengthen learners' thinking is discussion about their ambitions and dreams. This is the topic that could awake learners' mind.

I found students not having any dreams, but not knowing about importance of dreams in their life either, no general motivation in life...

I found them living from one day to the other, having no necessity to be inspired and to be motivated every morning when they get out of bed.

Seven out of ten Students kept hesitating when expressing their dream. Six out of ten students did not have any dream at all. They live from day to day and they don't even wonder if it is nice to live with no excitement. Eight of them were happy to

live such life. Talking about their goal in life we came out to the main one which is to finish the university. Then very general opinions dominated, such as having a family and a good job. I continued provoking their individuality and originality (E.De Bono, 1970) asking them what a good job means to them. Funny thing was nine out of ten students wanted to be the managers or directors of the banks. Unfortunately money motivation prevail deeper philosophical sense of life.

RESOLUTION: Students usually accept the lectures and tasks very passively on their lessons. They do not ask themselves questions WHY? WHY NOT? Asking them to describe something for homework they are forced to translate and find lots of activities which they consider very normal and natural but when they need to tell them in foreign language, they are lost. By doing so they enrich their vocabulary and next time when talking or explaining something, they will organise their thoughts in much simpler and smoother way. They use 'thinking tool'. Practising to describe all activities we do every day teacher leads learners to subconsciously discover their process of thinking.

A positive reflection was expressed by students especially on the task of describing their every-day activities. Seven out of ten said that going shopping with an English dictionary was more than fun and apart from that they had definitely enriched their vocabulary. Three students found it too demanding to use dictionary so often every day but they have admitted that it was a good way of learning new words.

Being inspired by Shari Tishman I have also chosen another method and that is "describing an object". Shari Tishman says that " Examining object closely is an excellent way to motivate and sharpen students' thinking" (EL, 2008, Vol.65, No.5,pp 44).

METHOD 2: DESCRIBING "the object of their attention" (Tishman, S. EL, 2008, Vol.65, No.5,pp 45)

To increase students' thinking we-teachers should awake learners' observation skills. Above mentioned activities such as walking in the streets, shopping, etc. they all provide excellent opportunities to observe and think. "To encourage students' thinking requires a deliberate approach but not necessarily a complicated one." (Shari Tishman, 2008).

This method is about having one object in the middle of our attention and we are going to try to describe it.

Teacher brings an interesting object to the class or he simply asks students to bring their favourite object themselves. If we work with an object brought by a student, we gain extra information straight away. It can tell us about students feeling which are reflected in the chosen object.

Students are asked to describe the object. As they proceed they should try to find reasons why the object is so big, or small, old, touched by time, etc. Students should also try to ask questions about it, to find connections with other related objects, e.g. why they don't see this stove in their kitchen any more. After asking there comes finding the answers for their questions, thus finding connections of the object with their lives or of their grandparents.

Description encourages expansive thinking. Object hides many secrets about its character and look. It definitely speaks about its way it was/is used, what it is for, if it is important for the life or if it holds decorative or emotional function in our life, etc. Learners are engaged in activities which lead them to discover this secret of the object. Their close examining awakens their curiosity (they are not even curious these days) and guides them to complex thinking. Thinking is thus strongly involved.

PROCESS

One of our student's books holds the topic "Old and new" which I find as an excellent opportunity to try making students find connections of the object chosen by student and the article. They should apply their thinking. I brought a picture of the old grandmother's stove. Most of the students do not use stove at home, unless they spend their weekends with grandparents or at the cottage. They are used to more comfortable and practical "cooker".

1. DEFINING THE OBJECT. Students had to observe the object first and then think of questions, ideas, themes connected to the "stove".

2. DESCRIBING THE LOOK, THE FIRST IMPRESSION. They started describing the object from the outside, what it looks like, what it is for, what makes it warm, where the wood to be burnt in is taken from, etc. They look at the object from very general point of view.

3. PRACTICAL VIEW, REASONING. I asked learners if they use it at home. A question that makes them be involved in the story of the 'stove'. I call it "reasoning". They said 'no' which made them think why they don't use it at home any more. We all fell into discussion about the past and conditions of life in the 19 century when the stoves were still common and we obviously couldn't avoid comparing life today and then.

4. LOOKING FOR CONNECTIONS WITH THE PAST. Students were directed to use their own questions and ideas to find out more about the "stove" and life in the past in which they began to be nicely curious. Discussion about the difference between life in the past and today let students wonder what they would do without internet or cell phone today, how they would live without such technological progress.

5. FINDING ADVANTAGES OF PRESENCE. Learners naturally moved from the magic of the past into technology of a presence. Description of a simple "stove" opened students' mind to perceive things in a slightly different way. They started thinking. They realised that boiling water for tea does not have to last half an hour and that washing clothes does not have to be done by hands but this was not in such way all the time.

RESOLUTION:

Simple observing and examining the picture of the "stove" from the time of our grandparents has lead students to ask lot of curious questions about the object, often developing their explanations from their own experience in grandmother's house. Especially exciting topic was brought up when students asked if their grandparents had always had enough wood to keep their stove working. We were 'forced' to go inside the story of life in the past. Questions of the type: 'Did they live close to woods?', 'Could they cut the wood in this forest?' 'Was it forbidden as it is today?''Who cut the wood, men or also women?''Was there any central heating?'etc. Describing the stove brought students to a different context of a society in which the stove was commonly used. Students were interested in object of the past, object not so familiar to them in modern society. They were actually creating questions that triggered their own discovery process which was the point of "object-centred discussion" (S.Tishman).

I found students thinking, finding connections and appreciating not only technical progress today but also values of life and strength of our grandparents to live in such different conditions in the past. We could not avoid comparing the advantages and disadvantages of life today and in the 19century. Learners

noticed that technology they experience nowadays was not part of life in the past. A very positive outcome of this method was that they even developed discussion about having washing machines today, and washing clothes by hands in the past or dishwater contrary to washing up by hands. The most interesting contrast was noticed when they started imagining their life without internet or using horses instead to pass some message in the past. I was very pleased in the end when I saw respect towards it all.

CONCLUSION:

Looking at something carefully, trying to describe features that all is a form of cognition. It highly evokes learners' thinking and also generates their own ideas and opinions. "Students need to become adept at thinking things through for themselves", says S.Tishman. By teaching students to observe the objects, we help them to notice objects in their everyday life and maybe even discover role and value of things in general which they normally ignore. "Making and finding logical relations to remember a concept" (Vygotsky, 1970) is also what our aim was.

LISTENING

Listening is another integral part of the communication process especially when we talk about teaching foreign language. "It is one of the more difficult aspects of the language arts to assess. It cannot be easily observed and can be measured only through inference". (Temple and Gillet, 1984)

That is the reason why it should never be separated from the other skills such as reading and speaking. Talking about learning as a consequence of applying 'thinking skill' is a very important part of the teaching process. Listening comprehension definitely complements reading and speaking skills. "In this part of study I've also focused on making students think as a consequence of listening.

METHOD: START WITH PRE-LISTENING ACTIVITIES

Although listening to the words said by native speakers can be sometimes quite difficult for our students, it is an extremely necessary activity to do. Teacher should make sure that learners will comprehend the text within and after the process of listening. The best way to do so is to prepare some pre-listening activities. It is so called "formal assessment" (Temple and Gillet, 1984) which is prepared by teachers "based on perceived needs". (Temple and Gillet, 1984). Before students start listening to the text itself, they will actually have the opportunity to express their opinion, ask questions and even analyse the topic. They "need assistance to activate what they already know about the ideas they are going to hear" (A. Pekin, J.Pekin, J.Muge, D.Baytan, 1982)

Bearing in mind that learning should be consequence of thinking, teacher guides students to thinking activities. He should lead them to the idea that: "... act of listening requires

not just hearing but thinking, as well as a good deal of interest and information which both speaker and listener must have in common". (King, 1984, [on line])

It positively affects the process of comprehension because students are informed what to focus on.

1. PURPOSE OF LISTENING. . I proceeded according the "Directed-Listening Thinking activity" (Stauffer, 1980) where learners are provided with the framework to organize their listening process. They are told what their aim of listening is. If they need to only understand the text or they will have to analyse it from some point of view as well. They are introduced to the theme of the article and are told that afterwards they will talk about different cultures in the world. Our topic for the whole module was 'Countries and cultures'. I found it as an excellent opportunity to broaden students' knowledge about the world, to awake their thinking and use also their own experience when analysing the text.

2. SET OF QUESTIONS. I have prepared a set of questions part of 'formal assessment' method (Temple and Gillet, 1984)}that made them think and search for their journeys abroad. For example 'Which country have you visited? Why did you go there? What were you doing all day? Have you met any new friends? Did these friends come from that country? What did you like about them?' There can be lots of different questions that basically prepare learners to talk about different cultures, people and remind them that there certainly are differences in countries all around the world. We will come to this conclusion by their subconscious and natural applying their own experiences thus finding connections and importance of what they have experienced themselves with learning process as such.

3. DEFINING THE TOPIC (After all questions and relaxed discussing the topic about travelling, being abroad, seeing foreign cultures, people , even talking to them, students are told the name of the article that will lead them to enrich their latest knowledge about the world's culture. The name of the article was 'Just a myth'.

4. VOCABULARY. Teacher needs to find out if learners understand all the words in the name of the text. They need to define all unknown words and if possible-by themselves. If they look them up in dictionaries themselves, they will more likely remember more of them than if just having the words translated by teacher.

   We had the word 'myth'. It was quite unknown so learners looked up the word in dictionary.

5. EXPLAINING VOCABULARY. Students had to explain unknown words in English but in different way than they found in dictionaries.

   Teacher can also provide some vocabulary that students might need while listening to the text. It's good to write it on the board for visual check up and fluent comprehension. Students can thus recognise the words explained ahead and also written. They won't get lost while listening. They will be able to follow the text uninterruptedly.

6. DISCUSSION. We have developed the idea of myth generally, why people usually say things like that, why these sentences are sometimes believed in and sometimes not. We even discussed some myths known for the Czech Republic.

The topic of listening was becoming more and more familiar to all students and that was definitely a very good comprehension start.

CONCLUSION

Comprehension is very much improved if listening activity is organised and well-structured. Students were very pleased when they could mention their own experiences from travelling and visiting countries abroad. Six out of ten students travel regularly and they gladly shared their stories with their classmates. Pre-listening activities help learners to adjust their thinking so listening itself can proceed in much easier way. Teacher must keep in mind that a purpose of the listening exercise is not to memorise the whole text word by word but to develop students' process of thinking and via thinking comprehend the heard text. This has been well achieved by letting students find connections with familiar for them situations, places, people and after all asking them to make inferences and reflect the ideas, respond with their own opinion to what it has been heard. These are all activities well-planned beforehand by a teacher to make sure that learners follow a certain structure which simplifies listening comprehension.

On the top of that teacher finishes the whole listening process by carrying on in asking questions and discussing the article by having students comparing the myths in different countries with myths in their own country, expressing their own opinion and applying their experiences from travelling. Students are guided to use thinking but in a very natural way that would not put them off.

Results

Methods described above have tried to make students think before they start learning. This was supposed to help them to learn, make it easier for them to absorb information and naturally remember it.

The very first progress I noticed was that all students had learned not only to hear the question 'How are you?' at the beginning of each lesson, but they also perceived its meaning and answered it with a very pregnant content. At the same time they've learned not only to express their opinion but also explain it straight away without teacher challenging them to do so. Their thinking process was definitely stirred.

Reading process has awakened learners' individual work and approach where they had a chance to apply their own way to analyse the text without teacher's guidance. They were provoked to discover and explore their own thinking. By analysing their mistakes afterwards they worked on another task of the same kind finding it much easier to comprehend and discuss the text.

Observation that has been practised within 'speaking part' was also found as a very good learning tool. Students find describing daily activities or objects very obvious in their mother tongue but saying them in English was a challenge for their mind. Learners soon found out that using simple sentences is much more effective than compound ones. They have also learned not only to look at the object from the outside but also see connections inside the observed topic. They started appreciating the presence of their daily routines which they ignored before.

Concerning the final skill that was also enriched by 'thinking' I have to say that pre-listening activities helped students to comprehend the text in a much easier way than just listen to it straight away. Activities that have been prepared before-hand helped learners to follow a certain structure thus develop the context and discuss the background of the story before listening itself. When they started listening to the text they were already familiar with the whole subject that made them comprehend, reflect and discuss the article afterwards much smoother.

Findings and Discussion

Applying 'thinking tool' to teaching process is always a very challenging task. I have to say that several methods I have used have brought considerable results. Victoria White's method "reading for sense to comprehend the overall meaning of a story" was appreciated especially by learners. Its main procedure was to "identify and compare basic story elements, look for useful key sentences and use them as a tool for summarising the text". I have definitely noticed progress in students' thinking. We read the article named "The 1900 House". To discuss the topic was hard only when working individually. At this moment I would like to emphasise the importance of teacher's assistance. After pointing out their mistakes in thinking and in steps of analysing, they found connections much easier. They discussed the title and found historical connections with lives of their grandparents. As soon as they had been challenged to talk about live of their grandmothers, they could discuss the topic without being stressed they do not know the exact words from the article. They naturally found synonyms and used short sentences. They did not try to quote the text. They looked for their own experience since they regularly visit their grandparents. They were also asked to talk to them about their lives in the past and discuss advantages and disadvantages they see in their lives nowadays. Students came back to the lesson with an amazing amount of information about life in the past. The next article they have read was about "Hazardous History", text closely related to the previous one, focused on health. After following a certain framework given by a teacher before ("formal assessment" method (Temple and Gillet, 1984), learners found connections between two articles very naturally, even adding their own experience from talking to their grandparents.

On the other hand I have to admit that the method of 'an individual approach/work' of students in reading task is effective for the teacher but students did not proceed very much in analysing the text individually. They require explicit instructions and guided hand of a teacher. After they were told their problems of thinking, they approached the text in different and more effective way. Nevertheless the first step by teacher must have been done and that is to discover and analyse learners' thinking. Only then could I apply the specific methods.

Another inspirational method was following the work of L.S.Vygotsky (1978) and the part of 'thinking process and skill' and also his principle of learning as "a social activity". L.S. Vygotsky says that "social interaction plays a fundamental role in the process of cognitive development" meaning that students play an active role in learning. The role of a teacher is shifted to the 'professional assistant' in order to help learners to look for their own experience and connect it with the topic discussed. Students found very interesting and exciting when they were asked to talk to their grandparents about life in the past. They naturally became part of creating their own experience and opinion which they did not have before and they absorbed it from reading the text only. They could experience it themselves by discussing it easily with people who lived in that time and also who they know very well so their process of questioning was lightened. "Connections between people and the socio-cultural context in which they act" (Vygotsky, 1978) were nicely applied and by our learners considered interesting.

Practising most of the skills (reading, speaking, listening) and complementing them by specific approach focused on making students think was found as truly fruitful. Students were lead to discover and analyse not only their thoughts but also the world they live in, their own experiences. In a process of giving their

own opinions they were discovering not only new vocabulary but they subconsciously learned and remembered things. Their thinking was definitely awaken and enhanced.

Also De Bono's theory of "lateral thinking" was proved to be effective. Apart from supporting the cognitive process of learners' approach to studying, it is also strongly linked to "a concept of humour". The question 'Why are you fine?' has definitely evoked not only surprise but also laugh. Students did not expect it, they have never heard it before, thus when thinking of an answer they came out with funny reasons first. Laugh brought up a very relaxed atmosphere and on the top of that students started answering truthful answers. If they were not fine, they had not replied an obvious answer 'I am fine' but the true one. One of the most pleasurable outcomes of "lateral thinking" method was that students learned to give the reason why they feel so automatically and naturally. They did not have to be asked any more to explain their feeling. And not only thinking process had definitely been applied. Also students' cooperation in communication and expressing their opinions and views in foreign language was very much enhanced.

Teacher should always try to make students observe and describe things around them so students do not absorb the facts but they come out with the facts themselves thus remembering them better. They can thus explore different points of view and find new connections and relationships between things. By observing and describing they open their mind to see something when they are looking at it which is also quite appreciated in life as such. Positive views were expressed towards describing "the object of their attention" (S.Tishman) of their own choice. They usually picked up the thing that was somehow challenging to describe or strange or funny to see. They brought for example 'dry hornet', or a 'bird feather' they keep in their pocket etc.

Describing the objects of this kind made the topic even more interesting, especially when looking for connections with their lives. At the same time it proves again what Vygotsky believed in: "humans use tools that develop from a culture to mediate their social environments". And talking about these tools and realising their connections definitely lead to "higher thinking skill" (Vygotsky, 1978).

Conclusion

Present study was aimed at awakening students' 'thinking skill' and involving it into learning process. The findings indicate that students definitely found it useful and much more effective when involving their own experience and opinion into the material being taught. "Making and finding logical relations" (Vygotsky, 1978) between things helped them to remember the concept easier. This survey also proved that giving students framework by a teacher it prepares them better to comprehend and absorb given material. Students received helpful guidance from a teacher in a form of questions or even the special strategy in which they could discover their own weaknesses in their individual approach to learning. They found out that reading a certain text does not always mean memorising its lines but that in a way of careful dividing text into "basic story elements" (V.White), simplifying their expressions or substituting them by synonyms it was much easier to be engaged with the material being read.

Teacher should avoid teaching purely by handing over information. He should find the way how to make students discover new information themselves. Certain activities like questioning or describing, noticing everyday object and situations, translating them into English etc. should be applied to provoke thinking. If this strategy of cooperation of the

teacher and learners is done regularly, it will continuously raise independent and natural thinking process in students. It is certain that it might take some time to improve learners' 'thinking skill' but even participants themselves let themselves hear that paying attention to simple but everyday objects and situations and translating them into English definitely helped them to improve their speaking even supported their confidence. According students' own reflection they have definitely started using their own thoughts and opinions more often.

Learning happens best when people can develop their own ideas and build their own opinions on the subject.

After all "We need to think better if we are to become better people.' Paul, aged 10".

References

Perkins, D. (1992): "Better Thinking and Learning for every child", [online], http://www.oregonread.org/conf_handouts_08/Harvey_Keynote.pdf.

Tishman, S. (2008): "Educational Leadership", Journal of Web,Vol 65, No.5, pp44-46, Web sites of Project Zero's Visible Thinking www.pz.harvard.edu/vt.

King (1984): "English language arts 10: a bibliography for the secondary level", [on line],http://www.sasked.gov.sk.ca/docs/xla/ela15b.html.

Temple and Gillet (1989): "English language arts 10: a bibliography for the secondary level", [on line],http://www.sasked.gov.sk.ca/docs/xla/ela15b.html.

Gordon Wells (1994): "The Complementary Contributions of Halliday and Vygotsky to a 'Language-Based Theory of Learning'", Linguistics and Education 6, 41-90, [on line], http://lchc.ucsd.edu/mca/Mail/xmcamail.2006_08.dir/att-0096/01-WellsHallidayVygotsky.pdf.

Vygotsky, L. S.: "Social Development Theory", (1978), [on line],http://www.learning-theories.com/vygotskys-social-learning-theory.html.

De Bono, E. (1970): "Lateral Thinking: creativity step by step", New York: Harper & Row, [on line], http://www.odu.edu/educ/roverbau/Class_Websites/761_Spring_04/Assets/course_docs/ID_Theory_Reps_Sp04/DeBono_Rep_Chapman.pdf.

White, V.: „Thinking Skills in English", [on line], http://www.standards.dcsf.co.uk/thinkingskills/guidance/581458?view=get.

Pekin, A., Altay, J. M., Baytan, D. (1982): "Speak Excellent English. 8 Secrets to Listening Success", [on line], http://www.ingilish.com/listening-activities.htm.

Koteková, D. (2009): "Reading comprehension-tool to improve speaking skill", In: Proceedings of the conference ERIE 2009, CULS Prague, pp. 140-144, ISBN978-80-213-1938-7.

Stauffer, R. G. (1980): The language-experience approach to the teaching of reading, Revised ed. New York, NY: Harper and Row., 342 p., ISBN: 978-0060464097.

INNOVATIVE APPROACH TO EDUCATION AND TEACHING OF STATISTICS

Julie Poláčková, Andrea Jindrová

Czech University of Life Sciences Prague

polackova@pef.czu.cz

Abstract

Educational and tutorial programs are being developed together, with the changing world of information technology it is a necessary course to adapt to and accept new possibilities and needs. Use of online learning tools can amplify our teaching resources and create new types of learning opportunities that did not exist in the pre-Internet age. The world is full of information, which needs to be constantly updated. Virtualisation of studying materials enables us to update and manage them quickly and easily. As an advantage, we see an asynchronous approach towards learning materials that can be tailored for the students´ needs and adjusted according to their time and availability.

The specificness of statistical learning lies in various statistical programs. The high technical demands of these programs require tutorials (instructional presentations), which can help students to learn how to use them efficiently. Instructional presentation may be understood as a demonstration of how the statistical software program works. This is one of the options that students may use to simplify the utilization of control and navigation through the statistical system. Thanks to instructional presentations, students will be able to transfer their theoretical statistical knowledge into practical situation and real life and, therefore, improve their personal development process. The goal of this tutorial is to show an innovative approach for learning of statistics in the Czech University of Life Sciences. The use of presentations and their benefits for students was evaluated according to results obtained from a questionnaire survey completed by students of the 4th grade of the Faculty of Economics and Management. The aim of this pilot survey was to evaluate the benefits of these instructional presentations, and the students interest in using them. The information obtained was used as essential data for the evaluation of the efficiency of this new approach. Firstly the knowledge about whether the creation of these tutorials is useful and whether it contributes to better and faster management of work done within the system. The efficiency and benefits of this proposed solution were evaluated through correspondence analysis. Outputs from this multi-dimensional method suggest that interactive manuals are indeed an efficient learning tool. Mostly students with less technical knowledge welcome the benefits of these tutorials.

Key Words

Polackova, J. (2010) "Innovative Approach to Education and Teaching of Statistics", Journal on Efficiency and Responsibility in Education and Science, Vol. 3, No. 1, ISSN: 1803-1617, pp 14-27, [on-line] www.eriesjournal.com/_papers/article_102.pdf [2010-06-30]

14

Introduction

Traditional methods of learning and education are often enhanced with new forms and learning methods, which use electronic technologies. In this regard, internet technology is often used to enhance student's engagement in learning and their academic achievement. (Carle et al, 2009). In addition, student's learning motivation is also a crucial enabler of the success of learning. (Govender, 2009) Sufficient attention must be paid not only to the course design and the learning context, but also to what are in the mind of individual students that motivate their learning process (Law et al, 2010).

Sowey (2001) states that: "The current emergence of interactive demonstrations over the World Wide Web offers particularly attractive presentation possibilities". Interactive materials available on the Internet enrich the traditional learning channels and methods, which usually represent technical literature.

E-learning is not only an complement to the traditional educational process any more. Thanks to the rapid development of technologies, e-learning is becoming an equal alternative. Use a virtual interface during the education process is considered as a challenge. (De Mora et al, 2009)

The efficiency and usefulness of using interactive materials during the education process was verified and published by Aberson et al (2002). In his article he confirms that educational tutorials offer a useful educational tool, which helps students to understand the studied subject better. Law et al (2010) confirmed the efficiency and usefulness of electronic education in his paper.

Under the IGA grant, "The creation of multimedia tutorials for support learning process using statistical program SAS", an e-learning course focusing on the support of work done within the SAS interface was created. The course was designed for all students, who during their studies, or during the preparation of their bachelor's or dissertation thesis, use the statistical software SAS.

The goal of the created electronic support is to extend and enrich the traditional learning methods of statistical subjects, with interactive demonstrations of work done in the user interface of the statistical software SAS. The benefit of the virtual learning materials is the option to approach students asynchronously. Which means that learning materials may be tailored according to the student's needs and according to their time. (Bosom et al, 2007) The created presentations focus on the description of processing of statistical methods. The set of the selected methods is possible to extend. This learning support has been created by using interactive and visually oriented learning tools, focusing on an independent work of each student, as well as on the creation of data relation overview and the complex graphical representation.

Material and Methods

TThe SAS system is one of the most complex statistical systems. It includes a large number of implemented methods and processes focusing not only on the statistical analysis but also on operational analysis, financial management and customer relationship management. The basic module is called the SAS/STAT and offers a wide number of procedures. The SAS/STAT software provides comprehensive statistical tools for a wide range of statistical analyses, including analysis of variance, categorical data analysis, regression and so on.

The mentioned procedures are logically created; each command precisely describes what this or that particular procedure will do and what will be displayed as a result. An important benefit is the availability of wide scope of additional and explanatory commands, which enable the user to perform detailed description, detailed diagnosis of the problem, or other alternative solutions that may be used through the application of other suitable method, etc. However the initial navigation through the large amount of commands may be a difficult task for some students. Therefore, the tutorials offer a useful supporting tool for working in the statistical program SAS.

SAS/INSIGHT software is a tool for data exploration and analysis. With this tool it is possible to explore data through graphs and analyses linked across multiple windows. It is an interactive interface displaying statistical functions numerically and graphically. The INSIGHT module offers an analyze of univariate or multivariate distributions, and fit explanatory models using analysis of variance or regression. This module may be also used for analysis of outputs from other modules.

Time series analysis has been done by using the Time Series Forecasting (TSF) system, which is a part of the SAS/ETS module. The TSF system forecasts future values of time series variables by extrapolating trends and patterns in the past values of the series or by extrapolating the effect of other variables on the series. The system provides convenient point-and-click windows to control the time series analysis and forecasting tools of SAS/ETS software. It is possible to use the system in a fully automatic mode, or to use the system's diagnostic features and time series modeling tools interactively to develop forecasting models customized to best predict your time series. The system provides both graphical and statistical features to help to choose the best forecasting method for each series.This module offers to use a wide variety of forecasting methods, including several kinds of exponential smoothing models, Winters method, and ARIMA (Box-Jenkins) models. It is also possible to produce forecasts by combining the forecasts from several models. (SAS, 2009)

Processing method

Adobe Captivate software was selected for the creation of interactive tutorials, which describe step-by-step how to work and use the statistical software and how to make statistical models. These tutorials enable learners to easily navigate through the statistical software. Therefore, the students have a chance to verify and improve their knowledge gained in the class.

Adobe Captivate is an eLearning content authoring tool that enables virtually anyone to create powerful and engaging simulations, software demonstrations, scenario-based training, and quizzes. It is easy to add any text captions, highlight boxes, audio, mouse paths, and even the captured images. Multimedia or special effects or elements may be also added into the recorded application. Importing of all standard graphical

formats, animations and digital video formats is supported as well as the visual effects such as animated transitions between slides or rollovers. The interface of the program is simple and intuitive.

Contents generated by Adobe Captivate 3 complies with the SCORM 2004 and SCORM 1.2 standards, as well as with AICC rules, including the new PENS specifications (Package Exchange Notification System), which enables easy integration with any learning management system (LMS). (Ceylan et al, 2009)

Screen recording offers three options. The first it is possible to record everything on the screen, or only a window of selected program or lastly, specify the size of the recording window. The automatic recording offers two modes: demonstration and simulation. Instructional presentation means that the program records everything what happens on the screen but only in demonstration mode. Interactive simulation means that the program records the screen in simulation mode. The autor can insert active elements into the final application. These elements react to various actions of the student. There can be add areas, which need to be clicked on, or where texts or numbers need to be inserted. In this way, the student can learn how to use the statistics program - no installing is required. (Digital Media, 2009).

Adobe Captivate enables us to publish the final application on the Internet or as self-executing files. Using Flash format ensures high quality of the output and enables the user to view the application in standard web browser. Before uploading the application on a web page or into the e-learning course it is possible to modify the final size of the display, the appearance of the playback control panel or also protect the entire application with password (Adobe, 2009).

During the work with statistical programs, students may use manuals or any kind of helps. These manuals usually are not illustrative or visual. Therefore, the option to use screen recordings is a welcomed addition to available help features. Using video recordings during e learning courses is very efficient.

Other forms of useful help features are Internet forums (asynchronous online communication). Therefore, within the realized e-learning course, we have established a forum where students and teachers may discuss their experiences or issues relevant to their statistical work or how to use the statistical program. Answers and results from these discussions may be used by other students as a valuable source of information. Advantages of discussion forums and benefits of interaction between other students or teachers, describes Trausan-Matu et al (2009).

Integration of instructional presentations into the learning management system

The final presentations are integrated into the University learning management system (LMS), called the MOODLE. Moodle has reporting, event, course and user management tools that are easily used by learners and teachers (Moodle, 2008). Online learning platforms commonly support a combination of functionalities, including assessment tools; management and administration of course tools; communication and teaching or tutoring materials (Roth et al, 2008). LMS makes it easy to observe how many times the learning object was used, which materials was used, how long was the learners online and reports about evaluations (Ceylan et al, 2009). All information, statistics and used texts, are also available for teachers who based on

these materials may evaluate the efficiency of the relevant study supporting program.

The tutorials created in Adobe Captivate are mostly valuable by combined students (combined form of studies), where it is not possible to explain all options of the statistical software. An important fact for the use of instructional presentations by the students is a good knowledge of the problem. Without the theoretical knowledge of statistics, it is possible that students will evaluate the analyses incorrectly or make incorrect conclusions.

Figure 1: An example of completed e-learning course

The created presentations are divided into five parts, according to the contents of the studied subjects. The first lesson focuses on demonstrations how to use the SAS programs system. It is an introduction to the SAS program. Next chapters are focused on an explanation analysis (descriptive characteristics, graphical analysis, tests of normality), testing procedures (one or two sample tests and analysis of variance), regression and correlation analysis (simple and multiple regression models, regression diagnostics) and time series analysis (decomposition of time series, trend functions, exponential smoothing models).

The solution of each part has been realized through three selected modules of the SAS system: SAS STAT and SAS/INSIGHT. The time series analysis has been solved by using the TIME SERIES FORECASTING.

Multimedia processing

The SAS user interface, which consists of various modules including the program editor, is not really user friendly. However, Adobe Captivate offers simple way how to create multimedia applications used for demonstrations of how to work in the statistical software. Instructional presentations make easier the basic navigation through each module of the statistical packet. (Jindrová et al, 2009)

The figures below show the demonstrations of how to use the SAS system. The figure 2 shows the programming editor, where the procedures may be entered. The procedure is initiated by clicking the picture icon depicting a running figure (representing the run command), located in the upper part of the menu. One of the tools that may be used in Adobe Captivate is the Zoom Area tool. This tool is used to attract the student's attention to the important part of the slide.
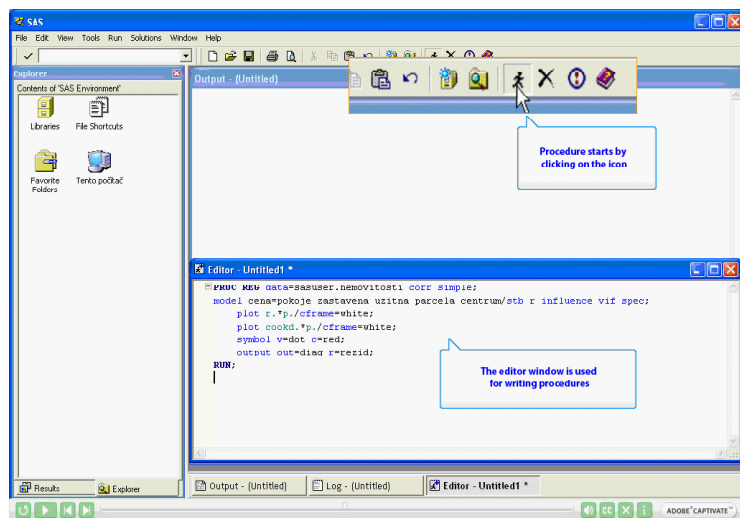
Figure 2: Presentation created in the Adobe Captivate, displaying the REG procedure in the SAS system
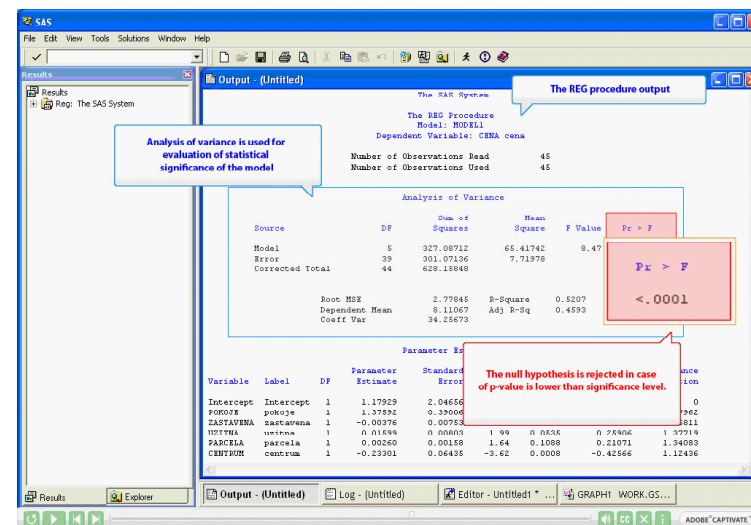
Figure 3: Presentation created in Adobe Captivate, displaying output of REG procedure done in the SAS system.

The presentation has several control elements (created automatically), which are inserted into the flash animations and which are used to play or stop the presentation.

Figure 3 displays output of the regression procedure. An advantage of the Adobe Captivate is the option to insert any text captions into presentations. The described area may also be enhanced with the Highlight box tool. Several described areas may be displayed in one window, at different moments with different styles. Each slide may be attached with audio, describing the situation on the screen. Adobe Captivate, enables the user to easily synchronize the audio with the slideshow.

Results and Discussion

The efficiency of the presented tutorials was evaluated by a pilot questionnaire survey completed by students of information technology. The aim of the survey was to find out if the creation of the tutorials, is useful for students and if they use it. 39 students of the Informatics participated in this survey. Most of these students were full-time students. The distribution and collection of questionnaires was done electronically. The questionnaires were available in the Moodle system. The questionnaire consisted of two sets of questions. The first set focused on evaluation of these instructional presentations from the students´ point of view. The second set consisted of detailed questions about taking the advantage of the tutorials. This set of questions was designed in such a way that the student could answer each question (statement) by using scale 1 - 5, where 1 stands for "definitely disagree with the statement" and 5 means "definitely agree with the statement".

Working with the statistical software assumes at least basic knowledge of information technologies, therefore the first question related to IT experiences. Only 13.1% of students consider themselves as pre-intermediate users, 77.7% of students consider themselves as intermediate or advanced users and 9.2% consider themselves as expert users (mostly programmers or administrators).

Nearly 92% of students answered positively to the question that they use the tutorials. The remaining 8% of students answered that they are planning to use instructional presentations in the future. Only one student stated that he does not use instructional presentations, neither he plans to use them in the future.
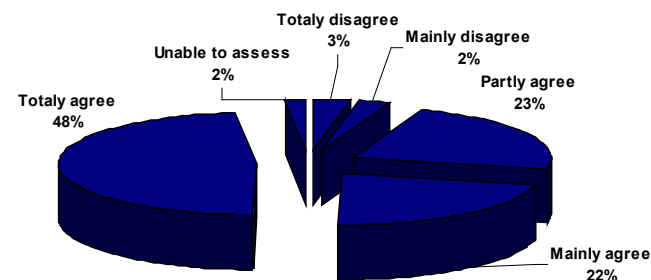
Figure 4: Answers to "IP enabled me to overcome difficulties with the interface of statistical system"

Almost 93% of all students consider using instructional presentation in their class useful and 70% of them confirmed that presentations help them to overcome difficulties with the basic navigation and use of the statistical system.

Most of the students (75.5%) said that statistical presentation represent a valuable form of help and that they prefer these presentations before manuals available in English language (86.6%).

From the teacher point of view, the goal of these presentations is to minimize individual consultations. However, not all students share the same view. Approximately 13% of students do not agree with this opinion, 33% of students partially agree and only half of students agree.

The questionnaire also included two questions asking about home preparation. The goal of these questions was to find out if tutorials enabled students to make their home preparation more efficient and attractive. As you can see on figure 5, more than half

of all participating students (54.7%) positively evaluate the IP as an attractive home preparation. Opinions describing whether home preparation became more attractive are not stable. Of course, this can be explained by aversion of students to study at home. This fact is also confirmed by answers "Can you describe your opinions you have about your studies?", where 62.3% of students answered that they prepare at home only if they have a task or a work that needs to be prepared at home. Almost 20% of students study at home every day and prepare for subjects that they are interested in. 15% of students study at home as little as possible and only if necessary and only 3.8% of students answered that they study and prepare for each class everyday.
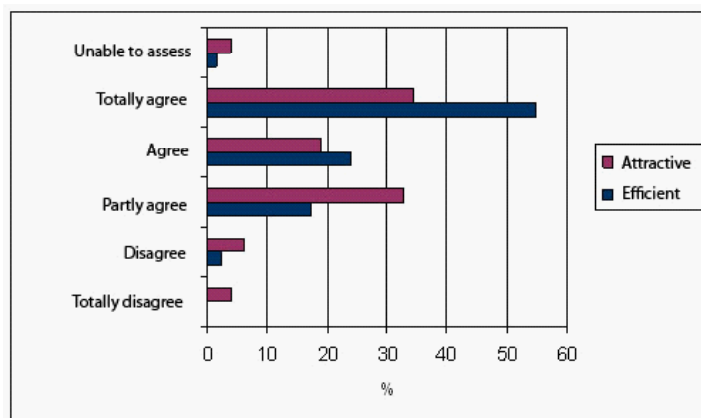
Figure 5: Answers to "IP enabled me to make my home preparation more efficient" and "IP enabled me to make my home preparation more attractive".

Correspondence analysis used for detailed evaluation of the questionnaire survey

For the analysis of the questionnaire survey, we have used a graphical multidimensional method - correspondence analysis. The correspondence analysis is an exploratory data analytic technique designed to analyze simple two-way and multi-way tables containing some measure of correspondence between the rows and columns. Exploratory data analysis is used to identify systematic relations between variables when there are no a priori expectations as to the nature of those relations. Correspondence analysis is also a multivariate descriptive data analytic technique. The multivariate nature of correspondence analysis can reveal relationships that would not be detected in a series of pair wise comparisons of variable. Another important feature is the graphical display of row and column points in biplots, which can help in detecting structural relationships among the variable categories and objects (i.e., cases). Finally, correspondence analysis has highly flexible data requirements. The only strict data requirement is a rectangular data matrix with non-negative entries. (Hebák, 2007)

Initially the relationship between students and their studies was monitored and the statement that interactive presentations enabled them to overcome difficulties with the navigation through the statistical system. The correspondence table (table 1) shows the absolute frequency of these inputs.

IP enabled me to overcome difficulties with an interface of statistical system	How conscientiously do you make a school preparation? I prepare...			
	only to interesting subjects	only to projects	as less as possible	Active Margin
Partly agree	9	18	6	33
Mainly agree	7	17	2	26
Definitely agree	14	40	7	61
Active Margin	30	75	15	120

Table 1: Correspondence table of cell frequencies

The maximum number of dimensions for a correspondence analysis solution equals the number of active rows minus 1 or the number of active columns minus 1, whichever is less. The number of categories for both variables is equal to three, so the maximum number of dimensions used in the procedure is two.

The first dimension displays as much of the inertia (a measure of the variation in the data) as possible, the second is orthogonal to the first and displays as much of the remaining inertia as possible From the summary table, it is clear that the first dimension displays 89% of the total variance (inertia) whereas the second dimension displays only 11% of the remaining information. The total inertia is defined as the weighted sum of all squared distances to the origin divided by the total over all cells, where the weights are the masses.

Mass, shown in Table 2, is a measure that indicates the influence of an object based on its marginal frequency. Mass affects the centroid, which is the weighted mean row or column profile. The row centroid is the mean row profile. Points with a large mass pull the centroid strongly to their location. A point with a small mass pulls the row centroid only slightly to its location. Highest mass can be found in the third category, which represents the statement "definitely agree". Category "Preparing only to interesting subjects" represents the highest mass of column variables. The next two columns (Score in Dimension) show the score recorded in the first two dimensions.

The indicator of inertia represents the share of the total information on the profile. The total inertia is defined as the weighted sum of all squared distances to the origin divided by the total over all cells, where the weights are the masses. Rows with a small mass influence the inertia only when they are far from the centroid. Rows with a large mass influence the total inertia, even when they are located close to the centroid.

The diagnostics that measure the contributions of points are an important aid in the interpretation of a correspondence analysis solution. Dominant points in the solution can easily be detected. The contribution of a point to the inertia of the dimensions depends on both the mass and the distance from the origin. (Hebák, 2007)

IP enabled me to overcome difficulties with an interface of statistical system		Score in Dimension			Contribution				
					Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
	Mass	1	2	Inertia	1	2	1	2	Total
Partly agree	,275	-,553	,084	,010	,681	,044	,992	,008	1,000
Mainly agree	,217	,366	,331	,005	,235	,548	,777	,223	1,000
Definitely agree	,508	,143	-,186	,002	,084	,407	,626	,374	1,000
Active Total	1,000			,017	1,000	1,000			

a. Symmetrical normalization

Table 2: The row scores

From Table 2 it is evident that the first principal component in the row profile divides students into those who agreed with statement that IP helped them to overcome difficulties with the statistical system, and those who took neutral position (partly agreed). The second principal component splits the first part of students according to how much they agree with the statement.

The first principal component in the column profile (see table 3) divides group to students who are preparing for their studies and students, who prefer the 'easy way', that means as

less preparation as possible. The second principal component divide students according to how much they are interested in their studies.

How conscientiously do you make a school preparation? I prepare...		Score in Dimension			Contribution				
					Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
	Mass	1	2	Inertia	1	2	1	2	Total
only to interesting subjects	,250	-,111	,355	,002	,025	,725	,217	,783	1,000
only to projects	,625	,215	-,099	,004	,235	,140	,931	,069	1,000
as less as possible	,125	-,855	-,216	,012	,740	,135	,978	,022	1,000
Active Total	1,000			,017	1,000	1,000			

a. Symmetrical normalization

Table 3: The column scores

The symmetrical normalization was used to display the correspondence map, it makes easy to examine the relationship. The row and column scores are the coordinates of the row and column points in the biplot. The column scores are related to the row scores via the profiles and singular value (from the inertia per dimension table).

The correspondence analysis offers various diagrams showing the relationship between the categories and variables. The scatterplot demonstrates row and column scores in two dimensions. The symmetric normalization makes the relationship between individual categories of the relevant variables comprehensible.
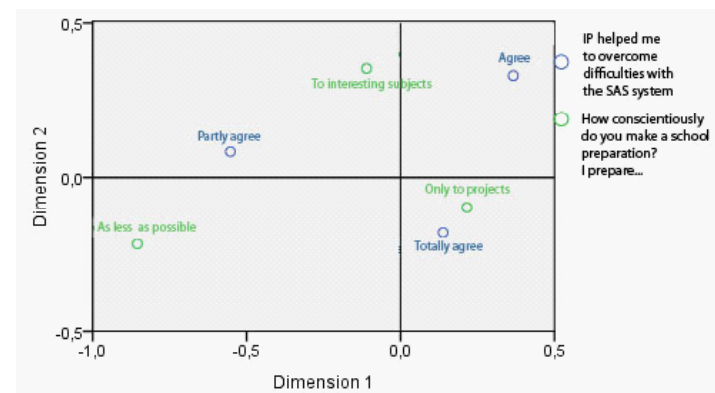
Figure 6: The scatterplot of the row and column scores

Figure 6 shows relations between the selected categories. It is possible to found three separated groups of categories in the diagram. Students who are preparing for interesting classes, agree with the statement ' IP enable me to overcome difficulties with the navigation in the statistical system'. Students who are preparing only on projects, totally agree with the statement because the IP helped them to create their projects. But students who are preparing for their classes as little as possible, agreed with the statement only partially, because they rather use common way of help.

Further, we have scrutinized whether there is a relation between IT experiences of students and their opinions that tutorials make home preparation more efficient. Relative frequencies of each category are shown in the table 4.

IP make my home preparation efficient	IT experiences				Active Margin
	Pre-intermediate user	Intermediate user	Advanced user	Expert	
Partly agree	1	13	5	4	23
Mainly agree	4	16	8	2	30
Definitely agree	11	33	15	6	65
Active Margin	16	62	28	12	118

Table 4: Correspondence table of absolute frequencies

As in the first analysis, even here we used only two dimensions. From the correspondence analysis summary table it is clear that the first dimension explains 88% of the total information and the second dimension explains the 12% of the remaining information.

The first principal component in the row profile divides students into those who agreed that IP helped them make their home preparation more efficient, and into those who took neutral position (partly agreed). The second principal component divides students according to how much they agreed with the statement that the use of interactive presentations made their home preparation process more efficient.

IP make my home preparation efficient		Score in Dimension			Contribution				
					Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
	Mass	1	2	Inertia	1	2	1	2	Total
Partly agree	0.195	0.836	0.021	0.023	0.804	0.001	1.000	0.000	1.000
Agree	0.254	-0.174	-0.415	0.004	0.045	0.700	0.323	0.677	1.000
Totally agree	0.551	-0.216	0.184	0.006	0.151	0.298	0.789	0.211	1.000
Active Total	1.000			0.033	1.000	1.000			

Table 5: The row scores

The first principal component in the column profile divides students according to their experiences with information technologies, into users and experts (administrators, etc.) The

second principal component divides students into slightly experienced, experienced and advanced users.

IT experiences		Score in Dimension			Contribution				
					Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
	Mass	1	2	Inertia	1	2	1	2	Total
Pre-intermediate user	0.136	-0.822	0.385	0.017	0.541	0.322	0.925	0.075	1.000
Intermediate user	0.525	0.093	-0.075	0.001	0.027	0.047	0.805	0.195	1.000
Advanced user	0.237	-0.094	-0.259	0.001	0.012	0.256	0.262	0.738	1.000
Expert	0.102	0.837	0.480	0.014	0.420	0.375	0.892	0.108	1.000
Active Total	1.000			0.033	1.000	1.000			

Table 6: The column scores

Figure 7 shows relations between the selected categories. On this diagram there can not be found clearly separated groups of categories as we could see in the previous diagram. However, generally, it is possible to say that the less experienced user totally agrees that using interactive presentation made his home preparation more attractive. Mostly more experienced users will agree with this statement, however expert users agree with this statement partially. The results support the intention of the authors, as they focused mostly on less experienced users, who usually have more troubles with the navigation. Advanced users and programmers, probably do not have any problem with the navigation through new programs, or if necessary, they can found necessary information in sources available on the Internet or in help features.
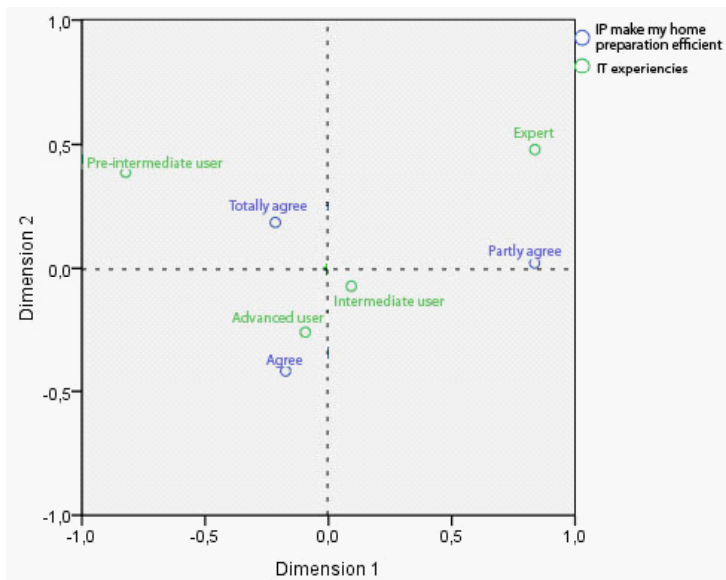
Figure 7: The scatterplot of the row and column scores

Conclusion

In order to make the teaching of statistics in statistical program systems more efficient, visual tutorials demonstrating how to work in SAS system, were created. Tutorials enable to describe the work process and familiarize the procedures to users. The intention of authors was to help students to work in the statistical system SAS easier.

The goal of the pilot questionnaire survey was to determine whether these tutorials are considered by students as a supportive study material. Whether the use of these presentations positively affects their home preparation, and whether this preparation became more efficient and attractive. And of course whether the students, using these demonstrations, are able to understand the process of statistical analysis in the SAS system.

From the questionnaire survey it is clear that user who knows statistical methods, may understand the process of statistical analysis in the program software SAS by using these tutorials. The survey confirms that instructional presentation is a helpful tool for teaching students, who have different experiences with the SAS system. Each user may watch these presentations in his free time in case he needs.

Based on the results obtained from the survey we can say that multimedia presentations can make the teaching process of statistical classes more efficient. Therefore, students are able to understand how to work and use statistical software faster and easier. Using these presentations at home during the preparation process makes the preparation more efficient. These tutorials are contributive for teachers, who can spend more time in the class by explaining the statistical methods instead of concentration on the software.

From the analysis it is clear that students who are preparing at home with higher intensity, more appreciate the existence of demonstrative tutorials. These tutorials help them to overcome problems with navigation through the statistical system SAS. Further, it was found out that less experienced users of information technologies, mean that tutorials made their home preparation more attractive. The results support the aim of the authors, as they focused mostly on less experienced IT users, who usually have more troubles with navigation in program systems.

The described multimedia presentations are available at: https://projekty.czu.cz, in the course called Electronic support for work in the SAS program. These demonstrations

are not used only by students of the statistics classes, but also by students, who use the statistical software SAS within the writing of their bachelor's or diploma thesis.

References

Aberson, C. L. (2002): Berger, D. E., Healy, M. R., Romero, V. L. „An Interactive Tutorial for Teaching Statistical Power" (online), Journal of Statistics Education, Vol 10, No. 3, Available: www.amstat.org/publications/jse/v10n3/aberson.html (10 Apr 2010).

Adobe (2010): „Adobe Captivate 4" (online), Adobe Systems Incorporated, Available: http://www.adobe.com/cz/products/captivate (14 Aug 2009).

Bosom, Á., Fernández, E., Hernández, M. J., García, F. J., Seoane, A. (2007): „Excellence in virtual education: The tutor online approach", Journal of Cases on Information Technology, Vol 9, Issue 2, Pages 61-74, ISSN: 15487717.

Carle, A. C., Jaffee, D., Miller, D. (2009): „Engaging college science students and changing academic achievement with technology: A quasi-experimental preliminary investigation", Computers & Education, Vol 52, Issue 2, pp 376-380, ISSN 0360-1315.

Ceylan, B., Balci, B., Inceoglu, M. M. (2009): „An application of creating and packaging learning objects", World Conference on Educational Sciences. Procedia Social and Behavioral Sciences 1, pp 2051–2056.

De Mora, C. L., Almenara, J. C., Casado, J. C., Gómez, A. C. (2009): „E-Learning 2.0. the new learning/teaching paradigm: Building up the collaborative learning community", CSEDU 2009 - Proceedings of the 1st International Conference on Computer Supported Education, Lisboa, Vol 2, Pages 305-308, ISBN: 978-989811182-1.

Digital Media, s.r.o. (2009): "Adobe Captivate", (online), Available: http://adobe.digitalmedia.cz (14 Aug 2009).

Govender, I. (2009): „The learning context: Influence on learning to program", Computers & Education, Vol 53, pp 1218–1230.

Jindrová, A., Poláčková, J. (2009): "Video tutorial as a support of statistic courses", Proceedings of the eLearning Conference, Gaudeasmus UHK, Hradec Králové, ISBN 978-80-7041-971-7.

Hessová, I. (2008): The using of e-learning educational systems in learning process - new teaching methods, Úhlava, o. p. s., Klatovy. ISBN 978-80-903851-3-9.

Law, K. M. Y., Lee, V. C. S., Yu, Y. T. (2010): „Learning motivation in e-learning facilitated computer programming courses", Computers & Education, Vol 55, pp 218–228.

Moodle™ (2010): „moodle", (online), Moodle Trust, Available: http://moodle.org (10 Apr 2010).

Roth, V., Ivanchenko, V., Record, N. (2008): „Evaluating student response to WeBWorK, a web-based homework delivery and grading system", Computers & Education, Vol 50, Issue 4, Pages 1462-1482, ISSN 0360-1315.

SAS (2009): „SAS® Software", (online), SAS Institute Inc., Available: http://support.sas.com/documentation/index.html (14 Aug 2009).

Sowey, E. R. (2001): „Striking Demonstrations in Teaching Statistics" (online), Journal of Statistics Education, Vol 9, No. 1, Available: http://www.amstat.org/publications/jse/v9n1 / sowey.html (10 Apr 2010).

Trausan-Matu, S., Posea, V., Rebedea, T., Chiru, C. (2009): „Using the Social Web to Supplement Classical Learning", Lecture Notes in Computer Science, Springer Verlag, ISSN: 0302-9743.

MEASURING STAFF MEMBERS E-READINESS TOWARDS E-LEARNING AT EGYPTIAN FACULTIES OF TOURISM AND HOTELS

Islam Elsayed Hussein Elsayed Ali

Institute of Business and Computer ScienceTU Braunschweig

Islam.tourism@Gmail.com

Abstract

Information and Communication Technology (ICT) has made life much different than it was before especially in Education. This research measures the staff members' e readiness for e-learning at the faculties of tourism and hotels in Egypt which influenced by a number of factors and dimensions. These are technical and pedagogical competences, experience scale and attitude Scale but the research will concentrate on the first dimension. This may help Tourism faculties to promote the use of IT in teaching and learning and also apply e learning effectively in these faculties to make qualified students for market work. Data was collected through a questionnaire of 92 staff member (professor, assistant professor and lecturers) of tourism studies, hotel management and Tourism Guidance departments. Also this research is based on a basic hypothesis that there is a shortage and insufficient of staff members e readiness for e learning.

Key Words

E-learning, e-readiness, IT, Quality, Measuring e-readiness, Higher education

Introduction

Information and Communication Technology (ICT) has made life much different than it was before, the pace with which such technologies have evolved is becoming too fast that physical distances are to blur. During the past few years, ICT applications have been incorporated into almost all activities, including education, where the need for highly skilled workforce made it inevitable to capitalize on such technological advancements, Amit (2005).

In Egypt, there is growing interest in using modern technologies to deliver instruction and facilitate the process of teaching and learning. E-learning is being more rapidly adopted by many universities and is destined to become a larger part of the educational experience of the students in years to come. some universities, for example has made significant investments in its IT infrastructure over the last two years and is undergoing change to introduce and develop e-learning and using programs of faculty development to support this process through the E-learning Center in universities Superme council and E-learning center at the university (http://www.Fayoum.edu.eg/),(http://www.astd.org/ASTD/Resources/dyor/article_archives)& Shephard, Haslam, Hutchings &Furneaux, (2004).

Tourism industry need better students to face the markets needs and the increasing in the international demand. One of the best ways to make the-learning process effective is e-learning Nermin (2007).

Research Objective

The main objective of the research is measuring staff's e-readiness for e-learning at faculties of tourism and hotels in Fayoum, Alexandria, Helwan and Menia according to quality factors of e-learning in Higher education and to discover the influencing factors on their e-readiness, beside clarify the barriers and obstacles that hinder ineffectively of this system to benefit from this system to enhance-learning process in tourism educational sector. Lastly, encourage the faculties of tourism to work with up to date practices.

Research Hypotheses

Research based on a main hypothesis that there is a shortage and insufficient e-readiness for e-learning of the staff member at the faculties of tourism and hotels in Egypt.

Literature Review

Using the internet in tourism education creates some benefits for both students and the staff members such as, Communication facilitator that students, staff and administration can communicate directly with each other, beside Information source the revolution of the amount of information for academics and students alike who can access to internet to all locations at any one time. They can obtain the information from more sources than ever before, which provides new teaching and learning opportunities, furthermore Motivator that many students and lecturers feel stimulated, and improve their time on task, when using the internet, the internet and its world wide web (www) provide a variety range of study methods and contains many resources such as broadcast, video conferencing, virtual

classroom, recording ….etc Shendy (2009) , Deyaab (2008) , Nagar (2006).

Usoro and Abid (2008) made altogether nine factors for typical quality e-learning in higher education: see figure (1).
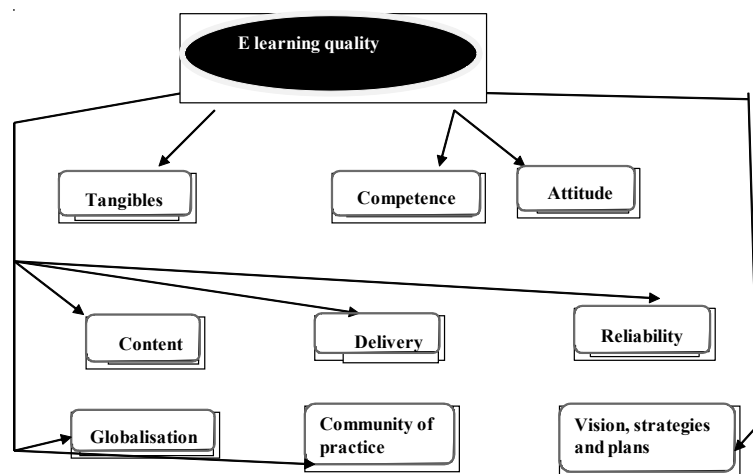
Figure 1 typical e-learning quality framework, source: Usoro and Abid (2008)

Firstly**,** tangibles according to ISO (2007) refer to ICT related to aspects of e-learning such as access and other technical issues which play an important role in successful of e-learning process that the main obstacle to the growth of e-learning is the lack of access to the necessary technology infrastructure and also poor or insufficient technology infrastructure can lead to little experience that can cause more damage than good to staff , students and learning experience and Zhao (2003) & Lagrosen and Hashemi (2004) concluded and cleared that tangibles are

enough of infrastructure and interactive nature of computers and network. Secondly, Competence refers to the quality of lecturers and learners and technical support which they receive, but according to Elshemy (2008) it refers to the-readiness of human capital to apply e-learning and these aspects affect their satisfaction such as interaction and feedback. Thirdly, Attitude is defined from a psychological point of view is feelings and this attitude is affected by some factors and can be positive if the e-learning fits the students and lecturers s needs and characteristics or negative if they could not adapt this form of education Bertea (2009) & Dahshory (2007) so the researcher see that attitude towards e-learning is influenced by its perceived pros and cons Fourthly, Content which consider also a major input that determines what the quality of output will be (student) according to Mustafa (2008) and there are many standards for typical e content as SCORM. Fifthly, Delivery that content needs present to students with high quality and attractive design, also it must have reliability, sexily, Globalization which made all the world as a small village that BSc in tourism and hotels online course offered by the faculties of tourism and hotels in Egypt is only available to learners resident in Egypt, in most cases other cases, learners can be distributed across the world. Also, local content and format may not be most suitable for a global audience. Thus, there may be need to adjust it from traditional to online format for online delivery Ali (2007). Seventy, creating communities of practice which are increasingly using advanced tools of technology in e-learning for knowledge sharing Usoro (2007) chatting and discussion enabling and e-learning platform as Moodle provides for discussions groups. An innovative approach is to use Web 2.0 and web 3.0 technologies into e-learning technologies which may be called e-learning 2.0 Craig (2007). Finally, developing e-learning vision, strategies and plans that the lack of vision and strategy has been identified

by Newton (2003) as a main reason of e-learning project failure so it is therefore important that e-learning project should begin with setting the vision and must be flexible in course delivery to cater for learners who cannot afford the time because of work or family commitment to attend full the time study Mohsen (2006). The research will concentrate on the second dimension of typical quality of e-learning (Competences) which refer to human resources e-readiness (staff members, students and administration.

Measuring Academic Staff e-readiness

The dynamic nature of the industry of the information technology (IT) in integration with developed e-learning technologies has created a tension for lecturers in higher education Colis and Moonen (2003) that in the Implication of e-learning programs, institutions are demanding a change in the role of university lecturers. Traditional teaching and learning skills need to change in order to get maximum benefit from online-learning McFadzean (2003) hence, lecturers are posed with the task of developing a new model of effective teaching that the lecturers have the major role and students are the main players. Many researchers attempted to lay down criteria or domains for successful online teaching, these critical success domains in e-learning environment are different to those in traditional learning environment Volery&Lord (2005).

Many studies identified that, there are many domains and variables that influencing university academic staff s current and future implementation of e-learning. According to Boshra (2007) the staff member's e-readiness can be measured and assessed within three dimensions and factors:

1. Competences (Technical and pedagogical) dimension
2. Experiences dimension
3. Attitude dimension

The research will concentrate only on the first dimension.

The first dimension, competencies.

This dimension refers to knowledge and skills that enable the academics to effectively develop and implement e-learning approaches. It includes instructional strategies (e.g.; constructivist, individualized, interactive, and self directed learning) and computer technology (e.g.; multimedia software, authoring tools, and networking) used to develop and deliver e-learning approaches. Competency items in this dimension are divided into two sections: pedagogical competencies and technical competencies. Items regarding teaching and technology standards that define proficiency in using e-learning are included in these two groups. Mahdey (2009) stated that adapting the positive aspects of the internet in education requires great efforts from staff members that current teaching practices have to be reevaluated and some changes may need to be made, staff members have to be trained in the use of new technological tools and their skills require continuous updating that large numbers of staff member have lacking experience to use ICT and this represent a major hindrance to e-learning applicability.

Methodology

This part of the research is also based on a Descriptive evaluative approach with quantitative and qualitative methods through questionnaire to 92 staff members, male and female in different disciplines (Tourism studies, Hotel management, and Tourism guidance) from four faculties of tourism and hotels in Egypt who were working in the period of the research and it investigated their e-readiness and technical support according to the quality of e-learning in higher education. There are a number of indicators and dimensions that clearly demonstrate where staffs are relation to e-learning system and their readiness.

Data Collection

The research used two sources to collect data; they are divided into two sources, first, primary data which collected via qualitative and quantitative methods .Due to the wide geographic area involved in the study, and the impracticability of carrying out. A questionnaire was considered to the most appropriate to reach the required population (92questionnaire) across faculties of tourism and hotels, male and female have participated. This questionnaire was pilot tested with a random sample of 10 faculty staff at different faculties at Fayoum University only to assess the importance, clarity, and wording of questions and items. Second, secondary data which gathered from journals, publication books, internet websites…others. This secondary data identified the knowledge already known which called literature review.

Data Analysis and Findings

The researcher began his analysis of the second section related to staff members who providing data to the researcher via prepared questionnaire using simple statistical and mathematical techniques as SPSS program version 17. In addition to researcher s comments that have resulted from analysis of the questionnaires answers. The level of staff member's e-readiness was analyzed using four Likert scale (4 = proficient, 3 = good, 2 = not good, 1 = none). Beside, correlation, standard deviation (Std) , means and frequencies. The analysis provided the faculties of tourism and hotels in Egypt with an insight into the participant's performance towards critical information needed by the staff members to their e-readiness and implementing e-learning effectively.

The critical analysis of the staff members skills whether technological or pedagogical was deemed extremely important in the evaluation of the current statue of e-learning at faculties of tourism and hotels in Egypt as it helped the instructors in strengthening or adjusting themselves to apply e-learning system effectively to meet industry needs.

The pedagogical competencies are Analyse e learner s needs, Predict e learner s problems, Support student s different learning styles, Define the objectives of an e-learning course, Enhance learner s motivations, Design group work assignments for e learners, Use active-learning methods in an e-learning course, Make use of rich experience of e learners, Support self-directed learning, Support e learners through collective problem solving, Use nontraditional assessment methods to assess e learners, Deal with culturally diverse learners. beside, while technical Competencies as Design Web pages for e-learning, Moderate online discussions, Design an online course for learning environments, Provide guidance to e learners,Write good study guides for e-learning students. Design e-learning resources. Deal with legal issues related to e-learning (e.g., copyright, Privacy).

Scale / Subscale	Freq. (%) proficient& good	Mean	Std. Deviation
Overall score	35.4	1.92	0.63
Technical Competencies	22.6	0.96	0.54
Pedagogical Competencies	85.0	2.88	0.51
Paired t tests for the means(Technical &Pedagogical)	Mean differences -1.76	Std. 0.49	T -43.30

Table 1 statistical results conclusion

The results have indicated that most of staff members have good pedagogical competences, on the other hand, there is a shortage in technical skills and this agreed with research hypotheses.

Return Rate

92 questionnaires were sent. 53 Of them were valid. The return rate is 58 %. This was because a lot of staffs have no time and have a lot of things to do better than completing the questionnaires.

Validity and Reliability

To ensure validity, Researchers have listed the items found in literature review which many researchers have agreed it and it has been send to the experts in e-learning with adequate experience in pedagogical and technical issues and asked them to add or delete items to these current items based on their understanding of the conceptual definition of this dimension. The revised items were used to develop the dimension competence and the initial questionnaire was piloted on 10 staff member. And to ensure Reliability a Cronbach alpha test was made according to Frank (2007) and Peter (2008) it is found its loading 0.849 which means that the study results are reliable. Beside, Using T test to test the significance of the items included

in the study .it appears that P less than 0.01 which means that results are significant.

Conclusion

The main purpose of this research was to measure the staff member's e-readiness for e-learning at faculties of tourism and hotels in Fayoum, Menia, Alex. and Helwan. one dimensions we included in our analysis: competence scale, Male and female have Results have showed that there is a shortage and insufficient e-readiness for staff member in technical skills at these faculties so the study recommends that for effective e-learning the staff member have to improve their technical skills to meet the requirements of e-learning system .

Future Research

Future research should extend to the entire faculties and institutions of tourism and hotels at higher education in Egypt to get better representation of the whole population.

Acknowledgement

The researcher is grateful and would like to thank all who have assisted him to complete this research.

References

Amit, G. (2005): *E-learning in Developing Economies*, Conference of E-learning, AUC, Cairo, Egypt.PP:325.

http://www.Fayoum.edu.eg/

http://www.astd.org/ASTD/Resources/dyor/article_archives)

Shepard, K., Haslam, P., Huthing, M. & Furneaux, C. (2004): *Synchronous on line tutorials for staff development*. Paper presented at the Networked learning conference, Lancaster University, UK.

Nermin, N. (2007): *The system of e-learning*, the third conference of tourism, faculty of tourism and hotels, Fayoum university, Egypt, pp: 216-237.

Shendy, M. (2009): *Teaching using IT, the system of e-learning*, faculty of Agriculture, Fayoum University, Egypt, PowerPoint, slides 23-27.

Deyaab, S. (2008): *Tourism education and internet*, faculty of tourism and hotels, Helwan university, Cairo, pp: 89-99.

Nagar, A. (2006): *Using IT in tourism education*, institute of tourism and hotels, Egooth, Ismaillia, Egypt, pp: 45-54

Usoro, A. and Abid, A. (2008) "*Conceptualizing quality e-learning in higher education*" in E-learning, Vol 5 (1), PP: 75-88.

ISO 2007. ISO/IEC FDIS 24751 http://www.iso.org/iso/en/CombinedQueryResult.CombinedQueryResult?queryString=e-learning(accessed on 16 May 2007).

Zhao, F. (2003) "*Enhancing the quality of online higher education through measurement*" in Quality Assurance in Education Vol. 11, No 4, pp 214-221.

Lagrosen, A. and Hashemli, S. (2004) *Learning Quality assurance*, insititute of Wessex,UK, Pp: 11-22.

El Shemy, N., (2008): *Importance of the internet in education*, Faculty of education, department of technology education, university of Fayoum, and pp: 45-48.

Bertea, P., (2009): *Measuring students attitude towards e-learning, a Case study*, the 5 e-learning and software for education conference, Bucharest, Romania.

Dahshory, W. (2007): *Teaching and learning using IT*, faculty of engineering, Fayoum University, Egypt, Developing Staff member's abilities courses. Not published Lectures.

Mustafa, A. (2008): *Using E-learning at Egyptian Universities*, e-learning center, Universities superme council, workshop.

Ali, Y., (2007): *The Arab Academy for Science and Technology (AAST) collaboration in Developing an online E-learning portal*, Conference of e-learning, AUC university, Cairo, Egypt, pP:2,3.

Craig, E. M. (2007): "*Changing paradigms: managed learning environment and web 2.0" in Campus* Wide information System, Vol.24 (3), pp: 152-61.

Newton, R. (2003): *Staff attitude to the development and delivery of e-learning*, in New Library World, Vol. 104, No.1193, pp: 412-25.

Mohsen, A. (2006): *E-learning strategies*, faculty of education, Technology department, Banha university, Egypt,pp: 56-58

Ministry of education (2007): *Are you ready for e-learning*? http://www.moe.gov.sg/edumall/rd/research_summaries.htm.

Sanluang, C. (2005): *Benefits and Barriers through e-learning among nursing students in the introduction to Nursing profession course*, Faculty of Nursing, Chiang Mai university, Thailand

Eom, S., Ketcherside, M. & Lee, H. (2004): *The determinants of web based instructional systems outcome and satisfaction*, IRM press, Hershey, pp: 96-98.

Jeanne, S. (2004): *Measuring e-learning readiness*, department of communication and technologies science, university of Hasselt, Belgium.

Cengiz, H. & Deniz, T. (2007) *Measuring Readiness for e-learning, reflections from an Emerging Country*, School of Communication Science, University of Anadolu, Turkey.

Sadik, A. (2007) *E-learning in higher education*, institute of information technology, university of Hull, UK, pp: 75-79.

Colis, B. and Moonen, J. (2003): *Flexible-learning in a digital world, Experiences and expectations*, London, Uk, pp: 265-271.

Mcfadzean, E. (2003): *Supporting online-learning groups, Part 1: A pedagogical perspective*, Team performance Management, Vol.7 (3, 4), PP: 53, 54.

Volery, T. & Lord, D. (2005): *Critical success factors in online education*, The international Journal of Education management, Vol.14 (5), pp: 216-223.

Boshra, A. (2007): *E-learning methodologies*, college for woman for Arts, Science and Education, Ain shams university, Cairo, Egypt.

Mahdey, A. (2009): *Introduction to E-learning system*, faculty of engineering, Alex. University, pp: 32-35.

Frank, A. (2007): Research methods, sociological Research Skills, UK.

ETHICAL EDUCATION AT SCHOOLS

Eva Švarcová

University of Hradec Králové

eva.svarcova@uhk.cz

Abstract

This paper informs about the educational content of the subject Ethical Education that has been in the Czech Republic newly included as a Complementary Educational Field into the Framework Education Programme for Elementary Education in addition to Second Foreign Language and Drama. Part of this paper concentrates on introduction of the new subject Ethical Education in the form as it is taught at the University of Hradec Králové and also on the presentation of some parts of selected teaching units.

Key Words

Introduction

At the present time discussion of different levels takes place on introduction of the educational field Ethical Education in Elementary School System as a Complementary Educational Field besides Second Foreign Language and Drama.

Ethical education is being taught as a compulsory optional subject in the national education system, for example, in Slovakia. Another country, which integrated the subject Ethics as an alternative to Religion as a compulsory subject in the elementary education, is Finland. In the long term this country ranks among the best as far as education research of all kinds is concerned. Today the discussion about obligatory inclusion of the Ethical Education into the curricula of Germany is in progress as well. Some federal republics have already introduced it as an obligatory subject in their education system. The country, in which teachers take a keen interest in the issue of Ethics and Ethical Education, is also Austria. On the basis of OECD results in this country there are 89 per cent of educators who pay attention to Ethical Education (see Ticha).

The experience gained from the above mentioned countries demonstrates that Ethical Education became a popular subject because of both its content and its form of experience learning. Ethical Education strengthens child´s dignity, leads to kind and helpful interpersonal relations, cultivates positive human qualities, trains for tolerance and the ability to sympathize.

Ethical education forms an inseparable part of education. It is closely connected with the moral element of education, which deals with shaping opinions and beliefs influencing human behaviour in such a way so that one acts not only according to legislative norms and social rules but also according to moral norms. In our school system the subject which would systematically develop the moral element of pupils´ character has been missing up to now.

Characteristics of the subject Ethical Education in Elementary and Secondary Education

The main aims of Ethical Education include training school children to be prepared to act as independent, free and responsible persons, who are able to claim their rights and to perform their duties; forming pupils´ need to express positive emotions in their behaviour, acting and experience of real-life situations; cultivation of perceptivity and sensitive relations to people, environment and nature; guidance towards pupils´ tolerance and consideration of other people, their culture and spiritual values; teaching principles of human coexistence.

During an Ethics lesson one uses mainly methods of experience pedagogy, which are completed with other activities including, for example, reading or listening to stories and fairy-tales, making-up stories on particular topics, drawing and other art activities, work with pictures, practice of separate skills, solving model situations, situational games etc. (see Novakova). Using the project method is also very beneficial since in ideal case it integrates themes chosen from the educational content of other school subjects.

Teaching Methods and Forms of Chosen Ethics Topics - Teachers´ Training

In terms of the subject Ethical Education the training of future teachers aims not only at the topics related to prosocial behavior, for example, ethical values and norms, self-awareness, positive assessment of others, empathy, family and ethical aspects of a family life, real life and displayed examples, multicultural

aspects of education, prevention of some negative phenomena, but topics universally developing future educators´ personal qualities are also implemented in teaching, for example, social interaction and communication, assertiveness, solving conflicts, creativity and essentials of cooperation, healthy life style.

Within lectures and especially practice lessons future educators get acquainted with themes, activities and situations, which they should pay special attention to when preparing for their own teaching practice at elementary or secondary schools (see (Vacek)). In the following part of the text the chosen topics and activities used in Ethics lessons in the teacher training programme for future teachers the University of Hradec Králové are introduced. These might be applied in lessons at elementary and secondary schools.

When planning a lesson teachers are imparted that the main aim of this procedure is to make pupils, through various forms of simple exercises and especially experience activities, familiar with different kinds of prosocial behavior and to guide them towards the application of this behavior in normal life. Mostly pupils work in groups, cooperate to solve model situations, imagine being put in somebody else´s place.

Aids: paper, coloured markers, cards with names of material

Communication

Aim: open non-verbal communication

Organization and time management: participants (pupils) are divided into pairs and by means of gestures and mimicry they tell each other their feelings (3 minutes)

Aim: open verbal communication

Organization and time management: participants (pupils) swap their partners and by means of words they tell each other their feelings (3minutes)

Final reflections: perception analysis of the message told through different forms of communication

Self-assessment

Aim: positive self-assessment

Organization and time management: participants (pupils) form groups of four and each from this group talks about his/her virtues (6minutes)

Aim: realizing own limitations to be able to work on their removal

Organization and time management: participants (pupils) stay in groups of four and each from the group talks about his/her vices (6minutes)

Final reflections: discussion on positive and negative qualities of every single person, analysis of possible ways leading to elimination or moderation of the vices, diversity acceptance

Positive assessment of others

Aim: positive assessment of others

Organization and time management: participants (pupils) form new groups of four and every group chooses from its members one "volunteer". The other members of the group draw a coloured picture characterizing the positive qualities of their schoolmate

Final reflections: discussion on personal feelings, evaluation of the activity, highlighting the benefit of the appreciation of other people

Creativity

Aim: development of creativity

Organization and time management: participants (pupils) form groups of three and select by lot one of the offered material (wood, stone, water, corn, grass,..). They work together and write down all things, which come to their minds, concerning usage of the material as well as how this material could further possibly serve human purposes. (5minutes)

Final reflections: presentation of outcomes and suggestions of further possible usage of the given material, followed by discussion and analysis of ecological factors of raw material use.

Empathy

Aim: to learn to understand people´s feelings (empathy) and to be able to give them necessary support in their difficult times

Organization and time management: a teacher creates the model situation- conversation with a friend, who is just coming through a difficult life period (illness, death in a family,..). Participants (pupils) form pairs and act out the friends´ dialogue- one in the pair is consoling the other one and trying to comfort him/her (5minutes)

Final reflections: mutual analysis of feelings

Assertiveness

Aim: to teach participants (pupils) to act assertively (to repeat a certain demand with the assertive technique of a broken gramophone record)

Organization and time management: a teacher creates the model situation- we have got a 50% discount voucher in a restaurant, but the owner of the restaurant does not want to accept it. Participants (pupils) form pairs and make a model conversation (3minutes).

Final reflections: discussion on assertive, passive and aggressive behavior

In the following chapter there is presented an example of an Ethics lesson implemented in grammar school education.

Lesson proposal - 2nd study year at grammar school

Opening: collective contemplation about the theme Cooperation. What does it mean? What does it enable? Does cooperation make anything more difficult? If so, what is it?

1. Activity: Foot in a circle

This exercise helps to remove fear of touch and in a form of a game it should contribute to solving the problem.

Performance:

A group leader draws a circle (when there are 12 participants the circle diameter is c.80 cm, when there are more participants he draws two circles). The participants´ task is to stand in the circle with only one of their feet. The end of this task comes not until every participant has really only one foot in the circle.

Evaluation:

What was important for the mutual cooperation?

Final reflections:

Analysis of the point of cooperative behavior and its use in everyday life

2. Activity: Adventure in the Antarctic

The class is divided into 4 groups of c. 5 students.

This exercise instructs participants to creatively cope with difficult situations and at the same time participants learn to behave cooperatively in the emergency state.

Performance:

Participants form groups of 5 or 6 players. Their task is to imagine they are members of an expedition team, which studies the ozone hole in the Antarctic. On their way to the exploratory station the crew on motor scooters gets stuck in a snow storm. When the storm dies away the expedition leader finds out that they have lost their way. He estimates that the station is approximately 25 km south from their place. Since the fuel tank of motor scooters is empty and there is only 10 l petrol left in the fuel reserve can he decides to search for help on his own with use of a compass. The help should come in at latest 24 hours. However, one and a half day is gone and rescuers are not yet there. It is 9 p.m. and the stores consist of a match box, a pocketknife, three woolen covers, a tent, a bag of sweets, three signal flares, a rifle, five small cans of liver salami, five packages of delicate bread, a shovel and five magazines.

Team players must find a solution, which all of them can agree on. They write down all activities that result in solving the situation and consequently they present them to their classmates.

Final reflections:

Analysis of the cooperation importance, especially when coping with difficult life situations.

3. Activity: Car park

Groups of 5 students

This activity is a smiling situation, which can take place practically every day. The aim of this game is both to clarify which criteria we follow in our decisions and to improve participants´ argument skills.

Performance:

There are 5 people chosen from a group. They are employers of a firm, which sells paper planes, and the workers need to park at the firm. Right at the building, which is situated in a quiet area of the inner part of a city, there are only three parking places available. The employers must agree on how the places will be divided. The sales manager opens the conversation.

Evaluation:

Which criteria were chosen for division of the parking places?

Which arguments were to the benefit of the cause, which were to the detriment of the cause?

Final reflections:

Evaluation of mutual cooperation

What is important, difficult, easy?

Homework

Think about the situation you really went through and which needed a kind of cooperation. Output is given in a form of a brief record.

Results and Discussion

For a few past decades almost all types of pupils´ intelligence have been trained at our schools: verbal, logical-mathematical, visual-spatial, bodily-kinesthetic, musical-rhythmic, but unfortunately cultivation of the social (personal) intelligence was rather neglected. The social intelligence might be divided into two types: interpersonal intelligence, which means the ability to act with others, to perceive the needs of others, to empathize easily with others, and intrapersonal intelligence, which refers to the self-reflective capacities, understanding of the self and own behavior and the skill to take control of it. Therefore, the social intelligence is necessary for social relations, especially in communication.

With respect to main objectives Ethical Education can to a great extend contribute to the social intelligence development (see e.g. (Winston, 2007) and (Winston and Bahnaman, 2008)). Unlike other subjects concentrating on personal social development, which shapes the personality in a neutral way, Ethical Education primarily aims to prosocial behavior cultivation. It means behavior in favour of another person, the motivation of which is not a duty, it is the behavior without asking for anything for return and at the same time without abuse of one´s own identity as a person acting in a prosocial way (see Lencz and Krizova, 2005).

Conclusion

In conclusion let me cite the words of prof. PhDr. Petr Piťha (Conference on Ethical Education, Olomouc, 2009), which I fully agree with. "The introduction of Ethical Education in schools is a must. School without education is not school and society without morality has poor future. It will decay because of inner crises and as such it will become an easy prey for dull dictatorship. Man is independent only when he is well-disciplined, meaning well-behaved. An undisciplined man will quickly lose his freedom."

Acknowledgements

References

Lencz, L., Križová, O. (2005): "Etická výchova-metodický materiál 2", Praha: Luxpress, ISBN 80-7130-116-7.

Nováková, M.: "Učíme etickou výchovu", Praha: Luxpress, ISBN 80-7130-126-4.

Tichá, J.: "Etická výchova v základních školách", [on-line] http://www.msmt.cz/vzdelavani/referaty-z-konference-eticka-vychova

Vacek, P.: "Etická výchova ve škole… už teď je pozdě!" [on-line] http://www.msmt.cz/vzdelavani/referaty-z-konference-eticka-vychova.

Winston, M.: Ethical leadership and ethical decision making: A meta-analysis of research related to ethics. Library & Information Science Research, Volume 29, Issue 2, September 2007, pp. 230-251.

Winston, M., Bahnaman, S.: Preparation for ethical decision-making: An analysis of research in professional education. Library & Information Science Research, Volume 30, Issue 3, September 2008, pp. 222-230.