Online Communication in the Face-to-Face Classroom

A14 Final Project
LT785- Research Methods in Educational Technology

Submitted by Joey Liesinger, Jill Vincent, and Lisa Wiese

I. Statement of Research Question/Problem

What does research indicate about the value of online communication (synchronous and asynchronous) in the face-to-face classroom?

II. Summary of Literature

Over the last 20 years, technology advancement and prevalence has increased in all areas of life: health, transportation, entertainment, banking, etc. Technology has had a recent explosion in social media, communication, and education. The issue today in education is deciding what form of technology can be used as a tool to increase achievement and convenience. "A challenge facing distance learners is feeling a sense of isolation and disengagement", (Tolu, 2010). Additionally, one technological characteristic quickly evolving today is where learning takes place without immediate feedback. This is in stark contrast to the traditional classroom where face-to-face delivery was the accepted practice and easily assessed. However, with technology advancing so rapidly on electronic delivery, the issue at hand is to explore the values of those different forms of communication and whether or not some type of hybrid system can be used for either online asynchronous or synchronous feedback.

Communication methods are categorized as synchronous or asynchronous. Synchronous communication provides real-time interaction and immediate feedback while asynchronous communication features delayed and generally text-based communication (Tolu, 2010). Examples of online asynchronous include discussion boards and email while online synchronous examples include chat and video messaging (Weaver, Green, Rahman, & Epp, 2009). An instructor can use asynchronous online discussion to supplement their face-to-face class time to

bring a blended instructional approach. This blended approach improves the student experience because most students are not single-method learners (Alrushiedat & Olfman, 2013). One benefit from asynchronous online discussion can be to facilitate an inclusive learning environment, especially for students who lack confidence and are hesitant to participate in the face-to-face discussion. This is especially true for ESL (English as a second language) students or shy students (Bassett, 2011). While opinions and experiences are shared in the face-to-face setting, some students are afraid to give their thoughts at all. When working online, participants can be more forward with their views and thoughts and may be more active in the discussions. People who are usually shy, introverted, or have language difficulties often feel they have an equal opportunity to express their opinions and it provides a freer and more comfortable environment (Wang & Woo, 2007).

Face-to-face classrooms traditionally allow for non-verbal cues and visual objects to enhance the communication for the group as a whole (Weaver et al., 2009). Emoticons and some language can be added to portray body language, but this is definitely not the same. What is seen as appropriate by some, may not be suitable for others to be using in their discussions. When using online discussions, topics appear to be more focused and have more context and appropriate language pertaining to the subject being taught and tend to be more text-based (Wang & Woo, 2007).

When learning in a classroom setting, it would be ideal if all involved were a part of the same conversation and heard each and every contribution. This is not always the case. Often there are side conversations which can be distracting to others and information can be missed completely or misinterpreted. There can still be side conversations, but they can take place with

the parties directly involved in a separate chat room, and not everyone in the large group discussion gets distracted by off-topic conversations (Weaver et al., 2009).

On the surface, online discussions and face-to-face discussions look quite different. The online groups are very quiet with each individual sitting behind a computer busy typing, whereas the face-to-face groups can be noisy and interactive, possibly full of laughter and conversation. When starting an online discussion, one problem which could arise is with the administration of the technology or even the directions on how to get started, joining a group or just getting to the correct location. (Wang & Woo, 2007). Another difference in using asynchronous online discussion versus face-to-face discussion is males tend to dominate traditional face-to-face discussions. In face-to-face communication, females tend to use more words and elaborations than their male classmates. Males acknowledge points made at the end whereas females provide acknowledgement throughout the face-to-face conversation. By contrast, communication for men and women were equitable within online communication modes (Davidson-Shivers, Muilenburg, & Tanner, 2001).

Educators use online discussion board to facilitate discussion among students and to foster deeper learning of concepts taught. Most form of online asynchronous online discussion, students tend to focus on the instructor's question versus responding to classmate's idea. Alrushiedat and Olfman (2013) conducted a research experiment to see if AAODs (anchored asynchronous online discussions) were more effective than AODs (asynchronous online discussions). AAODs included a part of a document such as a word, sentence, paragraph, or page to become the focus of the discussion thread. The purpose of this anchor is to create a visual marker to which all responses must correlate to. In traditional AODs, students tended to drift

away from the idea or just responded to threads with a short answer like "I agree" or "True". With AAODs, the average number of posts per students increased, and the number of levels achieved was greater than traditional AODs. Also, the number of responses to a post other than the initial post was greater.

Convenience with online communication modes is another way technology is changing education. Learning online increases the learners' ability to learn at their own convenience, which can boost how much information they absorb because it is done at the time when learning suits them best (Chaiprasurt & Esichaikul, 2013). Students now have greater access to instructors through online mediums versus scheduling office visits or talking after class discussions. Using online communication to give clearer insight or to deliver personalized feedback/suggestions enable instructors to provide customized communication with thorough thought (TeachThoughtStaff, 2017). Additionally, with online learning, chat rooms/discussion boards can be a record of conversations, where all users can go back and review what was discussed at their convenience, and all members can have an opportunity to share their input with the group (Weaver et al., 2009).

Student achievement has been proven to have a significant difference of higher knowledge acquisition in a setting where online courses were assisted with synchronous communication versus of traditional classroom with face-to-face communication (Murphy, 2011). Both courses were controlled, and the results only involved synchronous communication. By providing more access to activities and information the motivation to learn seems to increase with the use of synchronous tools. The use of tools extended to the mobile use will improve learner motivation and engagement in the course. There can also be an indication where this

interaction fosters relationships with students and even between instructors and students outside of the classroom setting (Chairasurt & Esichaikul, 2013).

Other research data has summarized their findings as learning outcomes are actually lower in online courses with asynchronous communication versus of the traditional face-to-face conditions (Groeling, 2004). The comparison of this study was limited to synchronous versus asynchronous communication. Online course curriculum also isolates the student and often results in a lack of communication and could give them a weaker sense of belonging to a community in a group setting(Chairasurt & Esichaikul, 2013).

In conclusion, one study had strictly compared asynchronous communication plus online technology to traditional synchronous communication without online technology and face-to-face won out (Groeling, 2004). The other study compared traditional synchronous communication with online technology aided by synchronous communication with the later coming out on top (Murphy, 2011). Neither of these two studies looked at comparing hybrid classroom compared to either.

III. Summary and Conclusions

The use of synchronous, real-time interactions facilitates an inclusive learning environment where students may be more inclined to participate, feel a sense of belonging and as if they have an equal opportunity to participate in all discussions, regardless of gender or ability. Discussion topics performed online are proven to be more focused, content-based and use higher-order thinking skills because of the amount of descriptive writing done to convey their point or ask a question. Being a more active participant in turn results in higher achievement and

satisfaction. A blended instructional approach can enhance the learning experience because learn best through multiple methods.

The convenience of learning and being able to utilize asynchronous tools on the learners' own time schedules is also a positive in regards to learning. The convenience also gives learners greater access to their instructors and the feedback or suggestions enable them to have customized communication throughout the assignment, rather than only at the end. The discussion boards and online communication can be viewed throughout the course of the unit and be utilized as a resource.

As technology continues to explode, the demand for further research must also. No one knows what tomorrow will bring as far as tools, methods, and safeguards. What we do know is that research hypotheses are becoming narrow and more efficient while at the same time, most educators are becoming comfortable with implementing new changes. There will always be a place for face-to-face expository instruction. There will always be a place for online technology in an asynchronous setting. Distance education has almost become the norm. However, if possible, melting the two into a hybrid classroom is currently the most successful as far as general population.

IV. List of References

Alrushiedat, N., & Olfman, L. (2013). Aiding participation and engagement in a blended

    learning environment. *Journal of Information Systems Education, 24*(2), 133-145.

    Retrieved from http://www.ezproxy.dsu.edu:2048/login?url=

    https://www.ezproxy.dsu.edu:2085/docview/1462046927?accountid=27073

Basset, P. (2011). How do students view asynchronous online discussions as a learning

    experience?. *Interdisciplinary Journal of E-Learning and Learning Objectives, 7*, 69-79.

    Retrieved from https://pdfs.semanticscholar.org/d6de/

    f2c123442612bb2c689402872205198a474f.pdf

Chaiprasurt, C., & Esichaikul, V. (2013). Enhancing motivation in online courses with mobile

    communication tool support: A comparative study. *International Review of Research in*

    Open and Distance Learning, 14(3), 377-402. Retrieved from

    http://www.ezproxy.dsu.edu:2048/login?url=https://www.ezproxy.dsu.edu:2085/

    docview/1634343364?accountid=27073

Davidson-Shivers, G. V., Muilenburg, L. Y., & Tanner, E. J. (2001). How do students participate

    in synchronous and asynchronous online discussions. *Journal of Educational Computing*

    Research, *25*(4), 351–366. https://doi.org/10.2190/6DCH-BEN3-V7CF-QK47

Groeling, J. P. (2004). *Does technology make a difference in the classroom? A comparison of*

    online and traditional courses employing models of competence and uses and

    gratifications (Doctoral Dissertation). Available from ProQuest Dissertations & Theses

    Global. (Order No. 3127805). Retrieved from

http://www.ezproxy.dsu.edu:2048/login?url=https://www.ezproxy.dsu.edu:2085/docview/
305177621?accountid=27073

Murphy, C. (2011). *An analysis comparing student knowledge acquisition in a traditional face-to-face classroom to a hybrid course* (Doctoral Dissertation). Available from ProQuest Dissertations & Theses Global. (Order No. 3504114). Retrieved from http://www.ezproxy.dsu.edu:2048/login?url=https://www.ezproxy.dsu.edu:2085/docview/ 1010624266?accountid=27073

TeachThoughtStaff (2017). How technology is changing how teachers communicate with students. *Teachthought We Grow Teachers.* Retrieved from https://www.teachthought.com/technology/how-technology-is-changing-how-teachers-co mmunicate-with-students/

Tekiner Tolu, A. (2010). *An exploration of synchronous communication in an online preservice ESOL course: Community of inquiry perspective* (Doctoral Dissertation). Available from Education Database; ProQuest Dissertations & Theses Global. (Order No. 3432668). Retrieved from http://www.ezproxy.dsu.edu:2048/login?url= https://www.ezproxy.dsu.edu: 2085/docview/822619990?accountid=27073

Weaver, G.C., Green, K., Rahman, A., & Epp E. (2009). An investigation of online and face-to-face communication in general chemistry. *International Journal for the Scholarship of Teaching and Learning, 3*(1). doi:10.20429/ijsotl.2009.030118

V. Application of the Research in a Typical School/Classroom

As teachers, we want to use the best educational practices in our classrooms. In junior and high school education, face-to-face classrooms are the standard. With schools investing in technology for students and many schools now having one-to-one programs, it is imperative teachers find the best way to incorporate this technology into current curriculum practices. Teachers need to look at the result of online synchronous and asynchronous research to incorporate the findings into their face-to-face classrooms. We specifically looked at achievement and convenience and how those two factors are affected by online synchronous and asynchronous communication.

Using online communication to supplement face-to-face communication will help increasing achievement by students. Research has shown online communication helps students by hitting various learning styles. Online asynchronous communication also allows students who are shy, introverted, or have language difficulties feel they have an equal opportunity to express their views. If teachers give feedback via online communication, students have the chance to go back and look over communication.

Students in junior and senior high have many commitments on their time besides learning. Students are involved in sports/co-curricular activities, have a job, become sick, and have family obligations. The convenience of having online assignments and online feedback fit into a student's life.

One thing is clear after looking at the research, there is not a clear consensus of what is the best teaching modality. Teaching without learning isn't teaching at all. The essence of education is the learning and application of the learning to new experiences. As high school

teachers, we are preparing students for furthering their education or preparing students for their job. Communication, problem-solving, and being adaptable to change are all skills students need and properly supplementing face-to-face class classrooms with online communication activities will enhance learning. Within an ever-evolving advancement in technology, whether for immediate feedback or delayed communication, if teaching doesn't embrace the use of technology as a tool, we all lose.

Teachers must ensure an opportunity for student success. Students participating in an online setting provides a real-world experience in lifelong learning. Teaching students to navigate and mediate fulfills everyone's goal, higher achievement. In the regular classroom, teachers can now establish an environment where students can enroll in online courses, and help students in everything from enrollment through certification.

Appendix A: Analysis of Research

Article #1

Name: Joey Leisinger

1. <u>Bibliographic Reference</u> (APA Style)

Murphy, C. (2011). An analysis comparing student knowledge acquisition in a traditional

      face-to-face classroom to a hybrid course (Doctoral Dissertation). Available from

      ProQuest Dissertations & Theses Global. (Order No. 3504114). Retrieved from

      http://www.ezproxy.dsu.edu:2048/login?url=https://www.ezproxy.dsu.edu:2085/docview/

      1010624266?accountid=27073

2. <u>Type of Research</u>

___ Descriptive	___ Correlation
___ Experimental	___ Causal-Comparative
___ Historical	_X__ Quasi-Experimental
___ Meta-Analysis	___ Survey

3. <u>Evidence from article you used to determine Type of Research</u>
This researcher did not use random assignment of the subjects to a group. Intact sample groups were already enrolled in a hybrid personal finance course while the other was in a traditional face-to-face classroom.

4. <u>Purpose of the Research</u>
The purpose of the research was to compare student knowledge acquisition in a traditional face-to-face classroom with the direct instructional teaching model versus a hybrid classroom where a combination of direct instruction and technology-based instruction was used as an enhancement to the learning process.

5. <u>Instruments Used</u>
The researcher used a five-point Likert scale along with a post-intervention questionnaire with the independent variables as traditional versus hybrid classrooms and the dependent variables as quantitative pretest and posttest along with student self-assessment of the hybrid experience.

6. <u>Validity and reliability of Instruments Used</u>
The pretest and the posttest for each class were identical, quantifiable and subjective. However the five-point Likert scale and the posttest intervention questionnaire were objective.

7. <u>Subjects</u>

The students in this study were subjects with many diversities including student population, ethnicity, gender, and learning styles. A large portion were Caucasians between the ages of sixteen and eighteen. The study lacked representation from multiple backgrounds including those with Individualized Education Plans and low-income families. Subjects were delimited into grades ten, eleven, and twelve in a high school setting. As far as the educators, the time spent in the hybrid course using direct instruction versus the on-line management was 50:50. Finally the curriculum was tailored to be identical for both expository and online delivery and there was no mention of the instructors receiving specifically trained.

8. <u>Results and Conclusions</u>

The results from this study indicated students in the hybrid personal finance course had statistically significant high posttest mean scores of knowledge acquisition than students in the traditional face-to-face class. The value of the mean in the pretest and posttest comparison indicated p-value = .05 and the null hypothesis was rejected in favor of the alternative hypothesis (the mean of the hybrid posttest would be greater than the mean of the traditional posttest). In addition, 76% of surveyed students preferred the hybrid learning environment as compared to a traditional face-to-face class.

9. <u>Possible Influence of Extraneous Variables</u>

The research was only done for those already signed up for the course, thereby lacking a purely random sample. Another extraneous variable is the course itself, Personal Finance since the study admitted a lack of population for low-income students. The most important extraneous variable is the familiarity of students who have previously enrolled in asynchronous online courses and those students who actually favor direct face-to-face expository instruction for which this study failed to provide the traditional classroom an exit intervention questionnaire.

10. <u>Possible Threats to Internal and External Validity</u>

One extraneous variable could be the difference in teaching styles between instructors or teacher bias. Another variable could be the familiarity with technology or online experience for either the instructors or the students. Also the lack of students with low income levels or IEP. The course was a graduation requirement and the posttest was previously given over the last four years. Another threat was the difference in the age of the students in different grades levels.

11. <u>Generalizability of Result</u>

Since the mean of the hybrid posttest was greater than the traditional classroom, and significantly different, secondary instructors may be better able to assist and teach students in a way to secure their academic goals. Since the purpose of this study was to determine if either of the instructional methods had a tendency to produce a high knowledge acquisition and course satisfaction, the finding of this study might help school districts, as well as other education institutions, create a more meaningful learning environment in meeting individual needs and goals.

Article #2

Name: Jill Vincent

1. Bibliographic Reference (APA Style)

Weaver, G.C., Green, K., Rahman, A., & Epp E. (2009). An investigation of online and

       face-to-face communication in general chemistry. *International Journal*

       for the Scholarship of Teaching and Learning, *3*(1). doi:10.20429/ijsotl.2009.030118

2. Type of Research

___ Descriptive	___ Correlation
___ Experimental	___ Causal-Comparative
___ Historical	___x Quasi-Experimental
___ Meta-Analysis	___ Survey

3. Evidence from article you used to determine Type of Research
The researchers do not use random assignment of the subjects to a group, they are already had enrolled in the same course but at two different colleges. The researchers used the same teacher, but each group received different methods of instruction. One group used an online environment, while the other group used a traditional classroom setting.

4. Purpose of the Research
The purpose of the research was to provide insight into how the online environment might differ from the traditional face-to-face environment. The research focused on the usage of formal and informal language, the types of questions asked, interactions between students and instructors, as well as the impact of male and female participation in both of the classroom settings.

5. Instruments Used
The researchers used logs of the online chat-sessions and compared them with the text of the face-to-face transcripts derived from video and audio recordings. Each of these transcripts was coded in the same way.

6. Validity and reliability of Instruments Used
When the researchers were trying to interpret the transcripts of the online-chat rooms and the video or audio recordings, they had to be objective. Two different researchers worked independently to code the transcripts and then they compared the results to see how each of them interpreted the data.

7. <u>Subjects</u>
The subjects of the study were general chemistry students at two universities. University A used the partial distance learning format while University B used the traditional face-to-face course. University B was significantly larger than University A. University B was a traditional research university located in a small city in a Midwestern state, where the average age was 21 years of age. University A has an average age of 27 and is located in a large Western city. The sample population was predominantly Caucasian students.

8. <u>Results and Conclusions</u>
Students using online interactions had to convey their ideas more clearly in written text in order to be understood and to effectively communicate between students and teachers as well as student to student. Therefore higher-order thinking skills are in place here. Part of this conclusion is due to the absence of visual cues which would be present in the face-to-face environment. Since the students were communicating through full-text input, the instructors could more easily clear up and identify misunderstandings as well.

9. <u>Possible Influence of Extraneous Variables</u>
Students taking the classes could have many different conditions affecting how they learn and interact with others. They could include, how they feel on class day, personal health, emotional conditions and anything going on at a University or a person's life which could affect how they learn or interacted on a given day.

10. <u>Possible Threats to Internal and External Validity</u>
With the same teacher teaching both groups, this helps with the internal validity in which they are being taught the same subject area at the same time.

11. <u>Generalizability of Result</u>
The study resulted in online interaction allowing the students to perform at a higher level however, the face-to-face interactions were often seen as more effective because the participants could see the non-verbal cues and it helped them understand topics. This study did not show females preferred to participate in the online environment, but the study did believe this would be the case. Another mentioned suggested the online environment promoted dialogue between instructor and student produced more higher-order questions in the online environment which supports the idea of the online environment promoting higher-order thinking. The study opens the door to further studies of using multimodal communication tools, such as Skype ™ and other video conferencing tools to impact their discussions on specific topics.

Article #3

Name: Lisa Wiese

1. <u>**Bibliographic Reference**</u> **(APA Style)**

Alrushiedat, N., & Olfman, L. (2013). Aiding participation and engagement in a blended

learning environment. *Journal of Information Systems Education, 24*(2), 133-145.

Retrieved from http://www.ezproxy.dsu.edu:2048/login?url=

https://www.ezproxy.dsu.edu:2085/docview/1462046927?accountid=27073

2. <u>**Type of Research**</u>

Quasi-Experimental

3. <u>**Evidence from article you used to determine Type of Research**</u>

The research was carried out as a field experiment and investigated if potential benefits would occur from anchoring in asynchronous online discussions for business statistics classes required for information systems majors in a blended learning environment. There were two different classes, one a class of 3rd-year undergraduates (Class A) and the other a class of 4th-year undergraduates (Class B). Within each class, two groups were established. One group examines anchored asynchronous online discussion (AAODs) while the other group examines standard asynchronous online discussion (AODs). The research included a multitude of statistical information for class participation to see is a significant statistical difference between AODs (control group) and AAODs (experimental group).

4. <u>**Purpose of the Research**</u>

The purpose of the research was to determine if AAODs can be more effective at increasing the efforts and engagement of students than AODs. The research had two hypothesize: H1: Students using AAODs will have a higher overall participation rate than students using AODs; H2: Students using AAODs will have a better engagement than students using AODs.

5. <u>**Instruments Used**</u>

Students from both classes participated in a discussion of the articles and tried to help each other find solutions to practice problems. The treatment groups used the AAODs while the control group used AODs. The discussion articles were identical for both groups from each class. Class A discussions were broken into 5 items while Class B discussions were broken into 4 items.

The participation (number of messages posted by each group for every discussion) for each group was counted. The mean, standard deviation, and median for each class-group-discussion topic were calculated along with p and t values.

An influential tread interaction map was also created for each class-group-discussion topic to show the level of thread and the message purpose. A message key (to define purpose) included the following items: + (elaborate), ag (agree), disag (disagree), on (on topic), off (off-task), and ? (trigger/request for explanation).

6. Validity and reliability of Instruments Used

The treatment groups and control groups both used the identical discussion articles for comparison. One of the research authors was also an instructor for both classes. so precautions to minimize the effects of biased preconceptions were taken.

Participation and depth were clearly defined as to ensure validity and reliability of data participation data. The interaction maps had objective data. Examples of posts were given for both treatment and control groups.

7. Subjects

The subjects for this study were students enrolled in business statistics for information system majors. This study followed two business classes:
- Class A: One section of Introduction to Business Statistics. Students in this course were 3rd-year (junior) undergraduates majoring in business.
- Class B: One section of Statistics and Management Science. Students in this course were 4th-year (senior) undergraduates, majoring in business.

The subjects were randomly assigned using Excel's RANDBETWEEN function. A total of 86 subjects participated with 42 used AAODs and 44 used AODs.

8. Results and Conclusions

Participation for Class A AAOD group was 347 compared to AOD group of 235. Participation for Class B AAOD group was 409 compared to AOD group of 281. Both class treatment group had a higher participation rate compared to their correlated control group. Also, for both classes, the AAOD group had higher medians indicating there was more extensive participation in the treatment groups. The participation rate per student in the treatment group was statistically significantly higher in 5 or the 7 discussion items.

The depth, or the maximum number of levels, of a thread were statistically significantly higher for the treatment groups compared to the control groups. This higher number of threads indicates an increase in viewpoints and perspectives given in AAODs than for AODs. The use of the interaction map confirmed the findings on depth. Also, AAODs breadth levels, number of messages per thread level, were consistently higher than AODs breath levels.

The research study confirmed previous research; anchoring in online discussions have the potential to increase the sharing of ideas and perspectives, enhance participation, and improve overall engagement to support learning.

9. <u>Possible Influence of Extraneous Variables</u>

Students with more interest in statistics might have contributed more to the because of their personal interest and not because of the use of anchoring. Also, social reasons like wanting impress classmate or teacher or trying to make friends might be some reasons why students interact more on online discussions versus due to anchoring. In educations, students learning styles, motivation, life events (work, family, other classwork, etc.), physical health, and emotional health may play a part in students ability to perform.

10. <u>Possible Threats to Internal and External Validity</u>

The same instruction taught all four groups ensures students were being taught the same subject area at the same time. The instructor of both classes was an author to the research. The researcher was aware of his own preconceptions of the hypotheses could influence the findings. Efforts were made to treat students the same way regardless of which discussion board students used. Data was collected and analyzed without biased by following a strict set of rules.

11. <u>Generalizability of Result</u>

This research included only 86 undergraduate juniors and seniors majoring in an information system majors taking a business statistics course. Since the research size was small and class subject very specific, the results of this research are limited in its ability to generalize the findings to other courses. This experiment could be performed with a larger sample size for the same course or the same research could be expanded to additional course and other major.

Appendix B: Shared Participation and Writing the Final Paper

	Member 1	Member 2	Member 3	Item: Total %
Enter Members' Names First:	Joey	Jill	Lisa	
Statement of Research Question (2 point)	50%	50%	0%	100%
Review of Literature (25 points)	26%	44%	30%	100%
Summary and Conclusions (5 points)	65%	30%	5%	100%
Application or tech potential (10 Points)	30%	5%	65%	100%
References (8 points)	34%	33%	33%	100%
Appendix A (10 points) (yes/no)	yes	yes	yes	Yes or No
Editing the document (work)	33%	34%	33%	100%
Proofread final document (yes/no)	yes	yes	yes	Yes or No
Your _Approximate_ Work Contribution	32.95%	33.40%	33.65%	100%
Comments if you wish: As a group, we all worked well together. Each person headed up a section but all members were involved in reviewing, adding comments, and contributing to content. Our groups believes each group member had equal contributions to the final project. The only aspect that each group member did individually was Appendix A.				