

DOCUMENT RESUME

ED 365 615

SO 023 663

AUTHOR Ekpo, C. M.
TITLE Attitudes of Nigerian Secondary School Teachers
towards Media-Based Learning.
PUB DATE [90]
NOTE 34p.; Best available copy.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Educational Media; Educational Research; Foreign
Countries; Learning Strategies; *Multimedia
Instruction; Questionnaires; Secondary Education;
*Secondary School Teachers; Student Motivation;
*Teacher Attitudes
IDENTIFIERS *Media Based Learning; *Nigeria

ABSTRACT

This document presents results of a study assessing the attitudes of secondary school teachers towards media based learning. The study explores knowledge of and exposure to media based learning techniques of a cross section of Nigerian secondary school teachers. Factors that affect the use of media based learning technique are sought. Media based learning is defined as a system that structures resources into a learning framework enabling children to learn independently at their own pace. The teachers' role with media based learning is to dispense knowledge through stimulating, enthusing, and guiding the learners. The methodology is based on a questionnaire survey of over 400 secondary school teachers selected from four federal government and 16 state controlled secondary schools in Nigeria. Major findings reveal that teachers at this level have strong positive attitudes towards media based learning in schools as a whole. However, there are some significant differences in teachers' attitudes when certain variables like gender, years of teaching experience, and qualifications of the respondents were explored. The paper includes three tables: (1) negative statements, (2) gender differences, and (3) years of teaching experience. When teachers' overall attitudes to media based learning were compared with their subject areas, social science teachers were found to give more weight to the fact that their teaching needs no medium except the chalkboard. Male teachers were found to have more positive attitudes toward media based learning than females, and more experienced teachers more positive attitudes than less experienced teachers. (DK)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED 365 615

ATTITUDES OF NIGERIAN SECONDARY SCHOOL
TEACHERS TOWARDS MEDIA - BASED LEARNING

DR(MRS) C. M. EKPO
EDUCATIONAL TECHNOLOGY UNIT
UNIVERSITY OF CROSS RIVER STATE
P.M.B. 1017
UYO.

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- ☒ This document has been reproduced as
received from the person or organization
originating it.
- ☐ Minor changes have been made to improve
reproduction quality.
- Points of view or opinions stated in this docu-
ment do not necessarily represent official
OERI position or policy.

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

C.M.
EKPO

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

BEST COPY AVAILABLE

SO 023 643

ABSTRACT

In this study, an assessment of the attitude of Secondary School teachers towards media-based-learning is carried out. The study aims at eliciting from a cross section of Nigerian Secondary School teachers their knowledge of/exposure to the media-based-learning techniques.

The methodology is based on a questionnaire survey of over 400 Secondary School teachers selected from four Federal government and sixteen state controlled Secondary Schools in Nigeria.

Major findings reveal that teachers at this level have strong positive attitudes towards media-based-learning in schools as a whole. However, there are some significant differences in teachers' attitude when certain variables like the gender, years of teaching experience and qualification of the respondents were explored.

Attitudes can be modified or changed, therefore this paper ends by suggesting ways of achieving this.

INTRODUCTION

Teachers' negative attitudes towards the use of media resources in teaching has been seen as a militating factor against effective media-based-learning in schools (Moore and Hunt, 1980; Wragg, 1984; Day and Paul, 1987). In spite of obvious instructional values of utilizing media resources in teaching/learning processes, there appears to be some resistance by teachers to utilize or encourage the utilization of media resources. This seeming resistance has been attributed to a myriad of factors ranging from self-preservation on the part of teachers to lack of adequate training background for the use of educational innovations.

Attitude could be defined as the pre-disposition to perceive, feel or behave towards specific objectives or certain people in a particular manner. Attitudes are derived from

BEST COPY AVAILABLE

day-to-day experiences and not innate characteristics, hence they can be modified or changed according to needs. Wragg, (1984) strongly believes that if teachers are more flexible, keen and enthusiastic to learn new teaching techniques than they currently are, then their attitudes could be changed.

BACKGROUND TO THE STUDY

Studies on learning, media and learners' aptitudes have revealed that different students learn differently and at different times/pace. Witkin et al (1975) identified the "field dependent and field independent learners," while Pask (1981) identified the "holist, serialists, and versatile learners" according to the learning styles exhibited by students. These research findings further reveal the uniqueness of individual learners and their varying learning abilities. This implies that students are not empty vessels to be filled but individuals endowed with potentials for creative learning. Thus, learning activities planned for

students at this level should be media-based as well. Efforts should be made to develop in them high order skills which will assist them in a better information handling in future - This should be the central goal of learning in the 1990s in order to realize the educational objective of "providing equal, functional and qualitative educational opportunities" for all citizens of Nigeria at the secondary school level.

PURPOSE OF THE STUDY

The aims of this study are as follows:-

- To elicit from a cross section of Nigerian secondary school teachers, their knowledge about media-based learning,
- To assess their attitude towards this learning technique, and,
- To identify those factors that affect the use of this progressive learning technique in Nigerian Secondary schools.

BEST COPY AVAILABLE

HYPOTHESES

- There is no significant difference in attitude between the male and the female teachers towards the use of progressive learning techniques including media-based learning, in secondary school.
- There is no difference in attitude between the experienced and the less experienced teachers towards the use of progressive learning techniques including media-based learning.

BEST COPY AVAILABLE

THE CONCEPT OF MEDIA-BASED LEARNING AND ITS JUSTIFICATION FOR NIGERIAN SECONDARY SCHOOLS

The concept of mediated or media-based-learning was first used to denote learning done through media of some sort as opposed to the enactive learning. Percival and Ellington (1988) observed that terms like resource-based learning or mediated learning are used synonymously with media-based learning. Media-based learning is a system that structures resources into a learning framework enabling children to learn independently at their pace. Some traditional teachers opposed it strongly for fear that it could take away from them the major responsibility - that of teaching. This fear is real for there are quite a number of teachers who feel idle except they "teach". With media based learning a teacher is expected to fulfil a different role from that of the conventional teacher who delights in what he feels he can teach. Media-based learning emphasises the dispensation of knowledge through stimulating, enthusing and guiding the learners. Thus, the more a teacher is able to act

in this direction to generate strong motivation in his students, the better the students will learn from media resources.

In practice, two extreme approaches of this system are in force currently. At one extreme end, there are teachers who feel the students still need maximum guidance, and therefore rather than act as the "universal uncle or a travel agent" answering questions and rescuing those in trouble, they decide to structure and pre-package knowledge for them. Hence, the students are given "itinerary rather than a map of the terrain and a survival kit" (Meggary, 1988 p. 174). These set of teachers exercise full control over what the students learn. In developed nation, such approach is exemplified in the use of programmed learning systems. In progressive schools within the developing nations this approach could be exemplified in the use of workbooks and other structured low cost technology.

At the opposite extreme end there are some teachers who tend to abandon their professional role completely and set the students free to pursue their own learning according to their interests and knowledge.

To this set of teachers, learning is completely unstructured and writing of learning objectives for instance is not emphasised. With this approach, there is no way to know before hand what might be learned or what could be the learning outcome. There are undesirable implications in both extremes. For the structured media-based learning system if the students are not sufficiently motivated there could be little or no learning. In the unstructured system by abandoning even a supervisory role over the students, the students could jump aim lessly from one topic to another and learn very little in the process.

For maximum benefit to the students and to work effectively media-based learning should tow the middle course where the teacher introduce the learners to the wealth of resources within/outside their learning environment and encourages them to use them and learn from them. Such teachers would be sensitive to their students' interest yet conscious of their needs. Such students would therefore be skillfully and unobtrusively set to discover what they intend to learn.

ITS JUSTIFICATION FOR NIGERIAN SCHOOLS

This learning technique has been proven to help students come to the realization that the four walls of a school is not the only place where learning can take place (Dale, 1969; Blazek, 1975; Asiedu-Akrofi, 1981). Of recent, Nigerian education has become increasingly influenced by pragmatic ideas. The idea that education should be functional, practical and serve as means of earning livelihood have resulted in the diversification of the secondary school curriculum in particular to include vocational, commercial and technical subjects. The pragmatists believe that there is no one way to educate a child therefore a variety of teaching/learning techniques should be employed. They also believe that a pragmatic teacher should not dish out facts and opinion to his learners as if they are empty vessels to be filled. His functions are to give and help his students when necessary and to provide them with suitable learning environment. Thus, with the introduction of the 6-3-3-4 system of education in the country, Nigeria should adopt this technique for effective result.

BEST COPY AVAILABLE

Media based learning could teach the students a variety of study skills and discovery learning technique. It could also encourage initiative and independence in Nigerian youths. Such attributes in Nigerian students could be a booster to check the current trend in examination malpractices. As long as students are not directed towards imbibing initiative and independent learning attitude, cases of examination malpractice will continue to escalate, and, products of our school systems will be unable to face any challenge in future.

THE SURVEY

Four hundred and thirty four (434) secondary school teachers selected from twenty secondary schools in Nigeria took part in the study. These schools were made up of sixteen state and four Federal controlled secondary schools. Both the stratified random sampling and a systematic sampling techniques were used in selecting the required number of cases.

BEST COPY AVAILABLE

INSTRUMENTATION

The instrument, a questionnaire had eighteen items and were designed to verify if the respondents are aware of the various attempts at individualizing learning and to assess their attitude towards this learning technique. All questionnaire items were of scaling type and a five-point Likert style was used. The instrument was pre-tested for content and construct validity using a sample of the target respondents at the Holy Family College Abak, Akwa Ibom State.

ANALYSIS - Demography of Respondents

Four hundred and thirty four secondary school teachers took part in the study. Two hundred and twenty four representing 51.6% of them were female and two hundred and ten representing 48.4% were males. Their years of teaching experience range from less than one year to ten years with

the following spread :-

< 1 - 3 years	-	115
4 - 6 years	-	85
7 - 9 years	-	85
10 ⁺ years	-	150

These teachers have various academic or professional teaching qualifications as follows:

Non-degree (NCE)	213 (50.1%)
First degree (B.Ed., B.Sc/BA (Ed.))	161 (37.9%)
Post graduate degree (M.Ed, M.A., M.Sc.)	25 (5.9%)
Others (PGDE/HND)	26 (6.1%)

From Table 1, teachers overall responses to some 13 negative statements are presented in a decreasing order of positivity. Since the questionnaire items were all attitudinal scaling system, a weighting system of measurement (Kerlinger, 1979) was applied. Thus a mean weight (\bar{X}_w) statistic was adopted for the analysis.

TABLE I : TEACHERS' ATTITUDE TO MEDIA-BASED LEARNING :
REFLECTION ON SOME NEGATIVE STATEMENTS

STATEMENTS	-2 SA	AGR	0 UND	DIS	+2 SD	N = 434 \bar{X}
My subject area does not require the use of any teaching/learning materials except chalkboard	6 (1.4%)	12 (2.6%)	2 (0.5%)	135 (32.1%)	267 (63.4%)	1.53
It is much easier and quicker to teach without instructional materials.	8 (1.9%)	20 (4.7%)	12 (2.8%)	187 (44.3%)	195 (44.3%)	1.28
To avoid embarrassment or disappointment in front of my students, it is better to teach without teaching/learning materials.	2 (0.5%)	12 (2.8%)	26 (6.1%)	330 (56.1%)	145 (54.3%)	1.21
My students are not mature enough to benefit from media-based learning.	10 (2.4%)	16 (3.8%)	17 (4.1%)	231 (55.5%)	142 (54.1%)	1.15
My students are too examination conscious, hence I teach them strictly to the syllabus and there is no room for use of media.	6 (1.4%)	40 (9.4%)	30 (7.0%)	238 (55.9%)	112 (26.3%)	0.96
It is difficult to manage my class whenever I allow the students to interact with learning materials.	15 (3.6%)	29 (6.9%)	28 (6.7%)	265 (63.7%)	79 (18.9%)	0.88
Personally, no remuneration will entice me into trying out methods or media resources	16 (3.8%)	61 (14.4%)	42 (9.9%)	154 (36.3%)	151 (55.6%)	0.86

TABLE I CONTINUED

STATEMENTS	-2 SA	AGR	0 UND	DIS	\$\bar{S}\$	\$\bar{X}_W\$
Designing, producing or modifying instructional materials is exacting and time-consuming and should not be undertaken by teachers.	25 (5.9%)	33 (7.8%)	31 (7.3%)	228 (53.5%)	106 (25.1%)	0.84
My weekly work-load does not permit me to plan and incorporate media-resources in my lessons.	9 (2.1%)	33 (7.9%)	43 (10.2%)	268 (63.8%)	67 (15.9%)	0.83
The available media-resources in my school are obsolete and nothing can be done about them	15 (3.7%)	35 (8.7%)	94 (23.4%)	109 (47.0%)	69 (17.1%)	0.65
Most modern resources require special environments (e.g. darkrooms) which my school lacks hence we should forget about media at this level.	30 (7.1%)	63 (14.9%)	61 (14.4%)	132 (47.1%)	70 (16.5%)	0.51
It is inconvenient to carry these materials from one class to another.	24 (5.8%)	126 (30.1%)	26 (6.3%)	105 (44.6%)	54 (13.0%)	0.29
Our country is not ready for media-based learning in secondary schools because the resources are just not there for our use.	79 (18.5%)	95 (22.2%)	55 (12.3%)	133 (51.1%)	65 (15.2%)	0.02

Teachers' overall attitude to media-based learning was cross-referenced with their subject areas. A negative statement, "My subject area does not require the use of any teaching/learning material except chalkboard", was used as the instrument of assessment. Only sixteen of the teachers (3.7%) claimed their subject areas do not require the use of any medium except chalkboard (and of-course with the teacher). The 91.9% who appreciate the educational values of various media types in their teaching-learning process is quite encouraging. The social science teachers tend to give more weight to the fact that their teaching needs no medium except the chalkboard. Such teachers **need** a breakthrough with a regular display of new creations and ideas in their subject area to encourage them see the latest available media-resources in their discipline.

GENDER DIFFERENCES IN TEACHERS' ATTITUDE TO MEDIA-BASED LEARNING.

Gender differences was apparent in three of the attitude statements. In Table 2, the male teachers with a mean weight value of 0.52 tend to have a more positive attitude than the female (0.16) towards the use of resource materials for all their lessons irrespective of cost in preparation time. It could be deduced from their responses that the male teachers are more likely to select, adapt/develop media resources for use than the female teachers when the instructional situation handled demands it.

Similarly, out of the 387 or 89.2% of teachers who agreed to the positive statement that if teachers themselves use media resources, it will also encourage students to use, the male teachers were more positive in their assertion. The mean weight of the male responses in this option was 1.38 as against the 1.15 of the female responses.

TABLE 2 : GENDER DIFFERENCES IN TEACHERS' ATTITUDE TO MEDIA-BASED LEARNING

STATEMENTS	N = 220				N = 200			
	FEMALE RESPONSES				MALE RESPONSES			
	AGR	DIS	UND	\bar{X}_w	AGR	DIS	UND	\bar{X}_w
Using instructional materials for all lessons will cost the teachers a lot in preparation time.	120	83	17	0.16	140	55	5	0.52*
I love trying out new teaching methods with my class.	193	16	7	1.01	184	10	3	1.18
We teachers should be given additional remuneration to encourage us to use media resources in teaching.	169	31	11	1.01	169	18	11	1.2
If we teachers use media resources in our teaching, our students will also be eager to learn from them.	193	22	5	1.15	189	7	1	1.38*
If I am supplied with the required instructional materials, I will use them with my students.	202	17	1	1.23	185	12	0	1.33

* The closer the \bar{X}_w value is to (*2), the more positive the attitude

BEST COPY AVAILABLE

These differences in attitude are difficult to explain fully in the light of available data in this study, it needs further research, could the initial discrimination against women in many technical professions in Nigeria (Imam et.al (ed) 1989) have resulted in the development of a technophobia in Nigerian female teachers? Or could it be females general nature of weighing every step before launching out for fear of failure? Could the female teachers in this sample be too occupied with domestic commitments and therefore be a little hesitant to spend extra time in developing or selecting materials/activities for classroom use? Or are they given more boarding house duties and extra-curricular activities in the school to make them vulnerable to this seeming negative attitude? Information based on these questions might help to illuminate further these gender differences in teachers' attitude.

However, the female teachers are more likely to be flexible in their teaching if the learning environment encourages them. For instance, the female teachers disagreed more strongly to the negative statement that students were too examination conscious and so there was no room for the use of media in instruction. The female teachers' responses to this statement had a mean weight score of 1.07 while the male teachers scored 0.83. However, differences in this last response was not significant at the p-level of 0.05 set, therefore not worthy to note.

TEACHERS ATTITUDE TO MEDIA-BASED LEARNING BY YEARS OF TEACHING EXPERIENCE.

Differences in the attitude of the long experienced (≥ 7 years of teaching) and the less experienced (≤ 6 years of teaching) was also explored in this study. Responses on three of the attitude statements were quite noteworthy (see Table 3). It was encouraging to note that only twenty-eight teachers, representing 6.4% of the total respondents, agreed to the negative statement that it is much easier and quicker to teach without media-resources.

TABLE 3 : DIFFERENCES IN TEACHERS' ATTITUDES TO MEDIA-BASED LEARNING
BY YEARS OF TEACHING EXPERIENCE N=423

STATEMENTS	YEARS OF EXPERIENCE			
	0 - 3	4 - 6	7 - 9	10+
It is much easier and quicker to teach without instructional materials.	1.09	1.23	1.39	1.42
Designing, producing or modifying instructional materials is exacting and time consuming and should not be undertaken by teachers.	0.81	0.64	0.83	0.99
The available media resources in my school are obsolete and nothing can be done about them.	0.34	0.64	0.75	0.83

NB: All responses expressed as mean weight value (\bar{x}).
Scale of weightings (-2 to +2 : SA - BD)

The closer the \bar{x} value is to (-2), the more negative the attitude.

Data presented in Table 3 surprisingly shows that the mean weight scores of teachers' positivity to this statement tend to increase with years of teaching experience. Thus, the less experienced teachers tend to find the use of media resources in instruction burdensome unlike the more experienced teachers. This finding supports earlier studies carried out by Corcoran (1981), Zeichner and Tabachnik (1981). These scholars reported a drastic change of attitude among teachers who have just completed their pre-service training. They referred to such changes as "transition or reality shock". The progressive or liberal attitude towards media-based learning by the pre-service teachers tends to wear out as they face practical reality in the field.

Also, fifty-eight teachers representing 13.4% of the total respondents agreed to the negative statement that, "designing, producing or modifying instructional materials is exacting and time consuming and should not be undertaken by teachers. While 334 or 76.9% of them disagreed with the statement. Thus, the majority of teachers have accepted additional role as media designers/producers despite the burden and preparation time involved.

A further analysis reveals that there is a relationship between years of teaching experience and the degree of acceptance of this role (see table 3). The long-experienced teachers tend to be more positive in their acceptance of this "added role" than the less experienced teachers. Most teacher training institutions offering Educational Technology courses in Nigeria employ the services of technicians/technologists. Student teachers are often assisted in the design/production of media resources they use. Consequently, on graduation, they expect similar assistance to be able to develop their materials. Besides, the ultimate reward (good grades) for creative production while in training compels the student teachers to design and produce instructional materials for use during their training. In the absence of similar incentives, the beginning teachers may relax their effort to develop instructional materials or show keenness to use them and would find the exercise burdensome.

TEACHERS' ATTITUDE TO MEDIA-BASED LEARNING BY QUALIFICATION.

Differences in teachers' attitude by their qualification was also explored in this study. Responses on two positive attitude statements were quite significant in this study and note-worthy. Highly qualified teachers tend to feel complacent in their attitude towards the use of newer teaching methodologies than the less qualified teachers. Although all teachers in this study have positive attitude towards the use of newer methods, holders of post graduate degrees tend to exhibit less positive attitude than all other calibre of teachers. Eighty percent (80%) of the post graduate teachers supported the positive statement, "I love trying out new teaching methods with my class", as against over 95% of teachers in other categories. Similarly, the NCE teachers (though holders of the least teaching qualification) tend to exhibit stronger positive attitude to media-based learning as a whole. This observation could be a reflection of the fact that most teachers with post graduate degrees such as MSc, MA or MBA often do not have any teaching qualification.

Consequently, their exposure in the use of newer teaching strategies/media resources could be more shallow than that of the less qualified teachers.

RECOMMENDATION AND CONCLUSION

Attitudes are derived from daily experiences and exposure. Some scholars (Moer & Hunt, 1980; Lasley & Applegate, 1982) noted that many practising teachers actually lack the pre-requisite training for proper use of some educational innovations. They feel that these new learning techniques/newer technologies may be in conflict with the way the teachers were taught. For a new orientation, teacher training process should not be a one-shot or a once for all affair. There should be opportunity for re-training of teachers either in award earning or non-award earning in-service programmes. The calibre of teachers to be given preference in such in-service programmes should be highly qualified teachers without teaching qualification and newly qualified teachers.

Such in-service/continuing education programmes requires more adequate attention, its execution should not be as sporadic as is currently in operation.

Since some of their responses to the attitude questions carry implication for media-resources provision and organization for easy access, there is need to pool together all available resources lying about in most institutions unutilized or not in heavy demand for maximum use. Pooling together of available media resources as suggested here does not called for centralized storage, rather, it entails devising and maintaining a good retrieval system within and inter schools.

However, though majority of teachers in this sample have strong positive attitudes to media-based learning at the secondary school level, this learning technique can not be effectively practiced in Nigerian schools except a policy statement establishing the minimum standard of media provision in all secondary schools is promulgated and

vigorously enforced at both the Federal and State government levels.

Finally, regular display of new creation and ideas in the use of progressive teaching techniques like media based learning could sufficiently influence these teachers' attitudes and eventually their teaching performances.

REFERENCES

- ASIEDU-AKROFI, K. (1981)
The Living Classroom : The Challenge to Primary School Teacher.
London : George and Unwin.
- BLAZEK, Ron (1975)
Influencing Students Toward Media Centre Use : An Experimental Investigation in Mathematics
(ALA Studies in Librarianship No. 5)
Chicago : American Library Association.
- CORCORAN, E. (1981) "Transition shock : the beginning teacher's paradox". Journal of Teacher Education
Vol. 32, No. 3 pp 19-23.
- DALE, Edgar (1969) Audio-Visual Methods in Teaching
3rd ed. New York : Holt, Rinehart & Winston.
- DAY, John and Paul, Scholl (1987)
"Media Attitudes of Teachers can be changed".
Educational Technology : The magazine of managers of change in Education. Vol. 26, No. 1 pp 23-24.
- IMAM, A., PITTIN, R., and OMOLE, H. (ed.) (1989)
Women and the Family in Nigeria. (CODESRIA Book Series) SENEGAL : Council for Development of Economic and Social Research in Africa.
- KERLINGER, F. N. (1979) Foundations of Behavioural Research. New York : Holt, Rinehart & Winston, Inc.
- LASLEY, Thomas J. and APPIEGATE, Jane H. (1982)
"The Education of Secondary Teachers : Rhetoric or Reform?" Journal of Teacher Education
Vol. XXXIII, No. 1, pp. 3-6.

- MEGARRY, Jacquetta (1988) "Hypertext and Compact discs:
The challenge of multi-media learning".
British Journal of Educational Technology.
Vol. 19 No 3 pp. 172-183.
- MOORE, D. M. & HUNT, T. C. (1980) "The Nature of
Resistance to the Use of Instructional Media."
British Journal of Educational Technology.
No. 2, Vol. 11, pp. 141 - 147.
- PASK, G. (1981) "Styles and Strategies of Learning".
British Journal of Educational Psychology,
No. 46 pp. 128 - 148.
- PERCIVAL, Fred and Ellington, Henry (1988)
A Handbook of Educational Technology. 2nd ed.
London : Kogan Page.
- WITKIN, H. A; MOORE, C.A; GOODENOUGH, D.R.,
COD, P. W. (1975).
"Field - dependent and Field-Independent
Cognitive Styles and their Educational Implications"
Research Bulletin. Princeton; New Jersey :
Educational Testing Service, in Pask, G : "Styles
and Strategies of Learning".
British Journal of Educational Psychology,
No. 46 pp. 128 - 128 - 148.
- WRAGG, E.C. (ed.) (1984) Classroom Teaching Skills:
The Research Findings of the Teacher Education
Project. USA : Nichols Publishing Co.