

Evaluation of Geography Teachers' preparedness in Pedagogical Approaches for an Enhanced Instructions in Secondary Schools, Kenya

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Abstract: - The purpose of the study was to investigate the level of preparedness of trained Geography teachers from Universities of Kenya and Diploma Colleges towards participation in pedagogical activities. The study was based on Shulman Lee, 1987, model of knowledge growth in pedagogy. It adopted descriptive cross-sectional survey design. In all, 10 heads of department, 30 Geography teachers and 160 students were drawn from a target population of 691 respondents for the study. Data were collected using questionnaires for Geography Teachers and interview schedules for the Heads of departments to investigate the feeling towards preparedness in pedagogy. An observation checklist was used to investigate the types of teaching and learning resources used in the form (3) and (4) Geography lessons. Descriptive statistics in the form of a percentage, frequencies, tables, and ranks were used to analyse data. Major findings of the study were that, most of University trained Geography teachers felt not well prepared for classroom difficulties and also faced challenges in the procedure of utilization of instructional technology in the teaching/ learning process. It was also noted that most of diploma trained teachers had been effectively oriented in pedagogical activities and on the proper procedural use of instructional resources but follow-up mechanism like in-service training was inadequate. Based on research findings, the study recommended all personnel involved in the teacher training programme should be teachers in the profession. They should be qualified teachers especially in student-centred pedagogy and in particular in universities of Kenya if the Ministry of Education has to have competent teachers teaching in secondary schools. Therefore, there is a need to review the existing structures and practices of conducting teacher education. It further recommended, in order to manage emerging probable challenges in particular pedagogical technological issues and use of ICT in teaching and learning of Geography in secondary schools, there is a need to conduct regular in-service for all teachers, research and investing adequately in teacher education.

Keywords: In – service, Preparedness, Participation, Pedagogy, Teaching, Student-centred Learning

I. INTRODUCTION

Teacher preparedness is one an important indicator of the extent to which they are prepared to meet compelling classroom demands that characterize their profession. Over years educational accountability has been a prominent topic for discussion and debate in social, educational and political

arenas across the world. Studies in France, the United State of America, Cuba, Germany, and other parts of the world show that low degree of achievement in many educational reforms have been a major reason why teachers' instructional beliefs and principles underpinning innovation in teacher education need to be understood and taken seriously, otherwise, reforms would remain artificial and cosmetic. Teachers' preparedness may provide insight into the extent to which opportunities for continued learning prepare them for most classroom demands. Report by Thomas (2001) on quality teaching suggests that most states are not doing an adequate job of preparing teachers for today's classroom. However, teachers who engage in various collaborative activities feel better than their colleagues to meet most classroom demands. When such reports are considered in conjunction with the focus on teacher accountability, there is little doubt that the demonstration of teachers' competence is both an educational, social and political necessity. In order to make teaching and learning of Geography operative, a student who interact with instructional media swots well than who is largely produced with uttered information (Sifuna, 1975). Therefore, selection and understanding how to employ educational media during teacher training is momentous not only to the secondary schools' learners but also to the Geography teacher-trainee. According to Mbugua, Kibet, Muthaa, and Nkonke (2012), achievement in Kenyan society, today is laid on the passing of Kenya Certificate of Secondary Education (KCSE) examination since it opens doors to higher educational hunt, thus more emphasis is laid on presentation texts. The global problem inducing learners enactment in Geography is that it has not been explored adequately since it is one of the elective subjects in the secondary school curriculum. Therefore, current researches positively connect teaching effects and students' learning. In addition, they suggest that the quality of teacher preparation must be a priority as most educational stakeholders have turned their attention to initiatives that not only increase the effectiveness of secondary education but also, assess the competency and effectiveness of secondary education personnel. Hence the need to evaluate the perceptions of trained Geography teachers towards pedagogical related issues for teaching in

Mwea East Sub- County secondary schools in Kirinyaga County, Kenya.

Problem Statement

Teachers should be pedagogically prepared during their professional training to be able to meet the requirement of the 21st Century classroom. Teacher preparedness incorporates what a trained teacher brings in a classroom from pre-service learning and on-the-job learning. For professional development to achieve its goal of improving Geography teachers' preparedness for classroom requirements, Geography teachers need to spend more than a day of training in a relevant pedagogical/ content area. The question is, "are these institutions (universities and diploma colleges) adequately preparing and producing competent teachers in student-centred pedagogy to be able to competently engage students in classrooms for effective learning?" There seems to be some hitches teachers face in designing meaningful pedagogical activities in Geography instructions among secondary schools in Kenya. Little study have been done on the level of pedagogical preparedness of secondary school teachers and how it affects their lesson delivery. The literature was again salient on the level of integration of ICT in the teaching and learning of Geography. It was against this background that this study was carried out to evaluate Geography Teachers' Preparedness in Pedagogical Approaches for an Enhanced Instructions in Secondary Schools in Kenya.

Objectives of the Study

The following objectives were formulated to direct the study;

- i. Establish the training status for Geography teachers teaching in Mwea East Sub- County secondary schools.
- ii. Establish Geography teachers' preparedness in pedagogy in some of the selected secondary schools in Mwea East Sub- County.

Theoretical Framework

Shulman Lee, 1987, developed an idea of going beyond content or subject matter knowledge to include how to teach a particular concept. Within the Pedagogical Content Knowledge model, he included ideas of representation, illustrations, explanations, demonstrations, and adaptation to make a comprehensive understanding of particular problem or issue. He also stated the knowledge that makes a discipline easy or difficult to learn. In order for teachers to teach effectively, they need to know the potential problems learners experience based on their ages and backgrounds. Therefore, this study was guided by Shulman Lee model knowledge, 1987 (Shulman, 2012). It is important, therefore, for a classroom Geography teacher to have an excellent grasp of content and appreciate the effect and role of instructional technology and the environment for field study in pedagogy. Teaching resources are naturally and technically a pedagogical issue. This would enable teachers to improvise

such resources and implement such domains. This theory, therefore, provided the framework based on previous studies thus assisting the researcher in planning for data collection and analysis concerning how Geography teachers felt prepared to participate in some of the most compelling classroom demands in some of the selected secondary schools in Mwea East Sub- County in Kirinyaga County, Kenya. That is, the selected theory was quite relevant to the present study as it facilitated the in-depth study of the problem.

Training status for Geography Teachers in Mwea East Sub-County

Teacher education is necessary to develop the proficiency and competence of the teacher as it enables them to meet the professional requirements to face the challenges and demands of a classroom. Training of a teacher has to do with the acquisition of specific skills in a specific area of specialization (Schofield, 1972). According to Dunking (1987) teacher education is considered in these phases: pre-service, induction and in- service. According to Genvieve (2017), ninety percent (90%) of trained teachers teaching in secondary schools in Kenya are university graduates. Most scholars believe that school teachers prepared in the universities are more creative and innovative basing the argument on the fact that competent teachers are prepared by the best brains in the land and universities are cradles of sophisticated knowledge than their counterparts diploma trained teachers (Wildavsky, 2012). Effective use of instructional technology in teaching Geography requires a teacher who is well versed with a variety of pedagogical and content knowledge from both Social and Natural Sciences (Kafu, 2014). This is because the topic covered in Geography might involve different subjects such as History, Religious Studies, Anthropology, Sociology, Chemistry, Biology and Physics must be meaningfully integrated (Lattuca, 2001). Teachers in secondary schools teach Geography according to the way they were oriented from their Colleges or Universities of training. Student teacher training before teaching practice requires wide use of teaching resources to facilitate understanding of complicated concepts and ideas (Loucks-Horsley, Stiles, Mundry and Hewson, 2009). Therefore, this also reflects that tutors/lecturers teach Geography depending on how they understand pedagogy and use resources in reference to how they were also oriented.

Preparedness and Participation of Geography teacher in Pedagogy

Geography teachers should be adequately prepared during their professional training for the requirement of classroom teaching. Teachers' preparedness incorporates what a trained teacher brings in a classroom from pre-service learning and on-the-job learning. For professional development to achieve its goal of improving Geography teachers' preparedness for classroom requirements, Geography teachers need to spend more than a day of training in a relevant pedagogical/ content area (Jones, 1996). According to Jones (1996) however, teaching experience might be expected to make a difference in

being prepared to manage classrooms by maintaining order and discipline and implement state curriculum because this area of expertise may be particularly problematic for beginning teachers. The question to ask in this juncture is to what extent to which geography teachers themselves feel prepared to meet classroom demands such as integrate educational technology into the subject taught? Kafu (2013) propose pedagogical competence since teachers are the basis of creativity and innovation in education. Hence preparation and production of ill-prepared teachers in pedagogy may originate from the manner Teacher education programme is designed and organized in Universities of Kenya. However, authorities contend that some are better on representing facts for the anticipated outcome to a learner. Teaching practical, human and physical Geography in secondary schools is not done exclusively for the purpose of passing the examination but for the knowledge, skills, and values to bring out an individual as an all-around citizen. It is important for a teacher to devote sometimes outside the classroom for fieldwork and other activities in order to come into contact with actualities of nature, environment and mans' work, this would create an expanse imagination power on the learner (Vella, 2002).

II. RESEARCH METHODOLOGY

According to Kothari (2004) research design is described as a plot or plan where the investigation is carried out to obtain elucidations to research questions set by the researcher directly from the fieldwork. This study adopted descriptive cross-sectional survey design. The design was adopted to describe specific aspects of a given population in examining the relationship among the variables since the variable used by the researcher in the study cannot be manipulated. A sample of 10 heads of department, 30 Geography teachers and 160 students were drawn from a target population of 685 respondent. Data were collected using questionnaires for Geography Teachers and interview schedules for Heads of departments to investigate the feeling towards preparedness in pedagogy. The questionnaire was pretested to ensure its reliability using Cronbach alpha formula and was accepted at 0.83. An observation checklist was also used to investigate the types of teaching and learning resources used in the form (3) and (4) Geography lessons. Participants' rights and privileges were respected throughout the study. Informed consent was obtained from all the respondents before allowing them to take part in the research. Participants were not forced nor induced to participate in the study; they participated freely and had the right to pull out of the study at any time. Data collected from the respondents were kept confidential and applied for research purposes only. Data collected from the field were cleaned, categorized and coded for analysis using Statistical Package for Social Sciences software (SPSS) version 22. Descriptive and inferential statistics were used to analyze the data. Frequencies and percentages were used to analyze the data.

III. FINDINGS AND DISCUSSION

This chapter presents the findings of the study. It includes analysis, interpretation, and discussion of the data gathered from the field study in an attempt to investigate the feeling of Geography teachers towards preparedness in pedagogical activities in Mwea East Sub- County secondary schools in Kirinyaga County, Kenya. The findings were discussed according to the following objectives that guided the study:

- i. Establish the training status for Geography teachersteaching in Mwea East Sub- County secondary schools.
- ii. Establish Geography teacher preparedness in pedagogy in some of the selected secondary schools in Mwea East Sub- County.

Training status for Geography Teachers in Mwea East Sub-County

The first objective of the study was to establish the training status of Geography teachers teaching Geography in the secondary school in Mwea East Sub- County. This section was considered essential to examine the extent to which respondents feel prepared to meet the most compelling classroom demands. Institutions that prepare individuals in teacher education are crucial in determining preparedness and participation of Geography school teachers in pedagogy and the use of educational technology. An item was designed to establish institutions where these Geography teachers were prepared and produced in.

Table 4. 1: Teacher training institutions

| Institutions of training | Frequency | Valid Percent |
|--------------------------|-----------|---------------|
| University of Nairobi | 5 | 17% |
| Kenyatta University | 13 | 43% |
| Mt Kenya University | 4 | 13% |
| Kagumo TTC | 8 | 27% |
| Total | 30 | 100% |

Table 4.7 reveals that Geography teachers teaching in Mwea East Sub- County were trainees of the University of Nairobi, Kenyatta, Mount Kenya Universities and Kagumo teacher training college in Kenya. The detailed analysis shows that 17% of the respondents were a trainee of the University of Nairobi, 43% was a trainee of Kenyatta University, 13% was a trainee of Mt Kenya University and 27% were trainees of Kagumo teachers training college. It can be concluded that most of Geography teachers teaching in Mwea East Sub-County secondary schools are graduates from Universities of Kenya with 73%. Consequently, an item was designed focusing on the effectiveness of the training of the pedagogical and/or content courses offered by schools of education in these training institutions.

Table 4.2: Effectiveness of the training of Geography teachers by category

| Education level | Teachers Feeling | Frequency | Valid Percent (%) |
|----------------------|------------------|-----------|-------------------|
| Postgraduate diploma | Neutral | 2 | 100 |
| Graduate | Very Effective | 1 | 5 |
| | Effective | 5 | 25 |
| | Neutral | 12 | 60 |
| | Not Effective | 2 | 10 |
| | Total | 20 | 100 |
| Diploma | Very Effective | 1 | 13 |
| | Effective | 1 | 13 |
| | Neutral | 6 | 75 |
| | Total | 8 | 100 |

From table 4.9 the teachers' findings on the effectiveness of pre-service training indicated that the majority of postgraduate diploma (100%), graduate (60%) and diploma (75%) trained Geography teachers noted the effectiveness of pre-service training was neutral and 10% of graduate teachers noting training were not effective with only 5% of graduate and 13% of diploma teachers noting the training was very effective and 25% of graduate and 13% of diploma teachers noting the training were effective. From the table, the majority of the respondents over 45% noted they were not adequately trained on all the learning and key competency areas. The findings displayed that the majority of teachers from diploma training institutions (13%) compared to graduate teachers (5%) indicating the pre-service training were very effective hence more teachers trained from TTCs were better oriented than their counterparts. According to one fresh graduate teacher's statement, "*The training was done just for the sake of examination*". This shows the ineffectiveness and the poor quality of the training in universities of Kenya. Key reasons identified for the ineffectiveness of the training were, lack of adequate training material, the group were too large in one lecture hall for the trainer to handle within the short training period and the training period was short and too congested with the pedagogical and content components and different learning areas. The respondents thus requested for comprehensive and detailed training. These results demonstrate one major shortcoming of the Teacher Preparation programme in Kenya. There is variety in the backgrounds of the serving Geography teachers in their preparation in Teacher education. A large proportion of 70% of Geography teachers is locally trained personnel in universities of Kenya. Therefore, these teachers have limited exposures to bring about meaningful change in the rapidly evolving education technological system. As a matter of fact, there is a lot of inbreeding in the development and administration of this programme as demonstrated by their recruitment (Bosire, 1995). In such a situation, limited creativity, innovations, and new ideas are expected in the instructional process. This is the main concern expressed by

educators about the quality of secondary school teacher education programme in this country (Kafu, 2011).

The ineffectiveness of the training duration meant that Geography teachers were not equipped with the necessary knowledge and skills on some of the demands of the compelling classroom. This implies that Geography teachers generally have limited knowledge and skills for the successful implementation of the state curriculum. This calls for changes in instructional approaches and extended duration from three hours to four hours in the pre-service training in pedagogical courses in the universities of Kenya. As a rejoinder, Geography trained teachers in practice need ample time for in-service training for them to have considerable knowledge and skills to understand expectations of learners for effective classroom teaching and be in a position to implement it confidently, effectively and successfully. In addition, there is a need to embrace co-operation through staff exchange programmes and delocalization locally and externally to facilitate the required capacity-building in teacher pedagogical development at the secondary level in Kenya.

Teacher Preparedness in Pedagogy

The second objective was to establish Geography teachers' preparedness in pedagogy in the selected secondary schools in Mwea East Sub- County. To fully answer the question of whether educators are adequately prepared to teach learners in secondary schools, the researcher examined the extent to which teachers themselves feel prepared to meet these demands. The researcher asked Geography teachers to indicate how well prepared they felt for some of the compelling classroom demands. The feeling of "well prepared" is one of the possible indicators of a high- quality teacher. The study sought to establish a satisfactory level of Geography teachers in pedagogy.

Table 4. 3: Teacher preparedness in pedagogy

| How well they felt prepared for some of the compelling classroom demands | Responses | | Percent of Cases | |
|--|---|---------|------------------|-----|
| | N | Percent | | |
| Teacher preparedness | Implement new methods of teaching. | 12 | 31% | 50% |
| | Implement Geography syllabus and performance standards. | 7 | 18% | 29% |
| | Integrate educational technology into the subject teaching. | 20 | 51% | 83% |
| Total | 39 | 100% | 163% | |

From table 4.10 the development in implementing new teaching methods of teaching Geography 50% felt well prepared for this activity. Similarly, 29% of the selected teachers who had professional development in implementing Geography syllabus and performance standards felt well prepared for a classroom activity. In addition, the integration of education technology into teaching Geography 83% of teachers felt well prepared for the activity. In examining

differences in preparedness between the proportions of Geography teachers, those who had efficient professional development in the pedagogical area was more likely than their colleagues who did not participate to believe they were well prepared to implement the Geography syllabus (29% versus 71%). The study further sought the understanding of Geography teachers on the key aspect of preparedness that would enable them to easily facilitate learning in the form three and four classes.

Table 4.4: Teacher preparation in implementing new methods of teaching Geography

| Education level | Teachers' feeling | Frequency | Valid Percent |
|----------------------|---|-----------|---------------|
| Postgraduate diploma | Felt well prepared to implement new methods of teaching | 2 | 100% |
| | Not prepared to implement new methods of teaching | 0 | 0% |
| Graduate | Felt well prepared to implement new methods of teaching | 4 | 20% |
| | Not prepared to implement new methods of teaching | 16 | 80% |
| Diploma | Felt well prepared to implement new methods of teaching | 7 | 88% |
| | Not prepared to implement new methods of teaching | 1 | 13% |
| | Total | 30 | |

From table 4.11 above 100% of the postgraduate diploma, 20% of graduates and 88% of diploma trained teachers felt well prepared to implement new methods of teaching while 80% of graduate and 13% of diploma trained teachers felt not well prepared to implement new methods of teaching Geography in the selected schools. It can be interpreted that postgraduate diploma teachers were well prepared to implement new methods of pedagogy as one of the respondents informed the researcher more emphasis on project writing was put by the trainers during professional development. From the findings, Geography teachers need to be effective in- serviced in digital literacy which is one of the new methods of pedagogy. Digital literacy is one of the core competencies to be developed in both teachers and learners for effectiveness in facilitating learning in different key learning and competency leaving areas.

Table 4.5: Teacher preparation on implementing Geography syllabus and performance standards.

| Education level | Teachers' feeling | Frequency | Valid Percent |
|----------------------|--|-----------|---------------|
| Postgraduate diploma | Felt well prepared to implement Geography syllabus and performance standards | 1 | 50% |
| | Not well prepared to implement Geography syllabus and performance standards | 1 | 50% |

| | | | |
|----------|--|----|-----|
| Graduate | Felt well prepared to implement Geography syllabus and performance standards | 3 | 15% |
| | Not well prepared to implement Geography syllabus and performance standards | 17 | 85% |
| Diploma | Felt well prepared to implement Geography syllabus and performance standards | 5 | 63% |
| | Not well prepared to implement Geography syllabus and performance standards | 3 | 37% |
| | Total | 30 | |

From table 4.12 shows that 50% of postgraduate diploma teachers, 15% of graduate teachers and 63% of diploma teachers felt well prepared to implement Geography syllabus and performance standards while 50% of postgraduate diploma, 85% of graduate and 37% of diploma teachers felt not well prepared to implement geography syllabus and performance of standards. This can be interpreted that degree trained respondents were poorly prepared on implementing Geography syllabus and performance standards as over 60% claimed they last saw the Geography syllabus during their teaching practice and when they were posted to teach in various schools. While over 60% of the diploma trained teachers confirmed to have interacted with the Geography syllabus as from the first years of their training until the time they were posted for regular teaching.

Table 4.6: Teacher preparedness on the integration of educational technology.

| Education level | Teachers' feeling | Frequency | Valid Percent |
|----------------------|--|-----------|---------------|
| Postgraduate diploma | Felt well prepared to integrate educational technology into the subject taught | 1 | 50% |
| | Not well prepared to integrate educational technology into the subject taught | 1 | 50% |
| Graduate | Felt well prepared to integrate educational technology into the subject taught | 10 | 50% |
| | Not well prepared to integrate educational technology into the subject taught | 10 | 50% |
| Diploma | Felt well prepared to integrate educational technology into the subject taught | 8 | 100% |
| | Not well prepared to integrate educational technology into the subject taught | 0 | 0% |
| | Total | 30 | |

Table 4.13 shows that 50% of postgraduate diploma, 50% graduate and 100% of diploma trained teachers felt well prepared to integrate educational technology into teaching Geography while 50% of postgraduate diploma and 50% of graduate trained teachers felt not well trained in the integration of instructional resources in teaching Geography in the selected schools. It can be interpreted that diploma teachers were well prepared in proper procedural ways of integrating educational technology into the discipline taught during their professional development. It is confirmed by 100% of respondents who said they felt well prepared to integrate teaching resources in the classroom activities. Implementing new methods of teaching Geography was the only classroom activity in which teacher preparedness and participation did not vary according to the general pattern, however, this finding may be clouded by the relationship between teaching experience and professional qualification of an individual teacher. Newly employed teachers were more likely to have had recent professional development in pedagogy, but they also felt least prepared to implement Geography syllabus and new methods of pedagogy. The extent to which teachers felt very well prepared to engage in most classroom activities largely depended on the institutions of training. Diploma trained teachers felt very well prepared than their university counterparts. This is a clear indication that graduate Geography teachers are crippled in the quest for producing the desired quality learners in secondary schools in Kenya. According to Kafu (2011), Kenyan secondary schools are not producing competent learners because teachers teaching them are not adequately equipped for the task. These data might suggest that regular in-service programmes may be the most effective way of developing this important classroom expertise, since managing learners may be more easily learned in the classroom environment and with teaching experience. Professional development is more likely to bring about long term change in teacher preparedness and participation.

IV. CONCLUSIONS AND RECOMMENDATIONS

The findings established there were more graduate teachers than diploma trained teachers in Mwea East Sub- County. With 67% of graduates, 27% diploma followed with those with post-graduate made up of the smallest proportion of 7%. In addition, 70% of male teachers dominated the teaching of Geography followed by female teachers with 30%. Consequently, 57% of the respondents had a teaching experience of over 10 years. This is clearly indicated that most of the Geography teachers were experienced and should, therefore, be very aware of the important role of educational technology in pedagogy as well as the proper procedure of utilizing them effectively. The class average size of most of the teachers taught was below 10 learners. This is likely to have effective use of instructional resources. Results obtained from respondents 50% of Geography teachers felt well prepared for development in implementing new teaching methods of teaching geography. Similarly, 29% of the respondents who had professional development in implementing geography syllabus and performance standards

felt well prepared for a classroom activity. In addition, the integration of education technology into teaching Geography 83% of teachers felt well prepared for the activity. In examining differences in preparedness between the proportions of Geography teachers, those who had efficient professional development in the pedagogical area were more likely than their colleagues who did not participate to believe they were well prepared to implement geography syllabus (29% versus 71%).

Therefore, it can be concluded, administration of pedagogy in secondary schools in Mwea East Sub- County is currently experiencing a wide range of challenges related to teacher education, in particular, those trained in Kenyan universities, technical and logistical support, instructional resources, funding, and administration. In addition from teachers' general view regarding teacher education in Kenya teacher training institutions and in particular Kenyan universities and especially in pedagogy is wanting, hence affecting the crop of teachers prepared and produced for secondary schools in Kenya. The programme is irrelevant to produce competent Geography teachers in pedagogy. Hence, it is recommended, all personnel involved in the teacher training programme should be teachers in the profession. They should be qualified teachers especially in pedagogical issues and in particular in universities of Kenya if the Ministry of Education has to have competent teachers teaching in secondary schools. Therefore, there is a need to review the existing structures and practices of conducting teacher education. It further recommended, in order to manage emerging probable challenges in particular pedagogical technological issues and use of ICT in teaching and learning of Geography in secondary schools, there is a need to conduct regular in- service for all teachers, research and investing adequately in it. This strategy will not only promote its quality but also make it relevant to the needs of learners and teachers of Kenya and beyond.

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CONFLICT OF INTEREST

The authors declared no conflict of interest. No funding was received purposely for this particular study. As a result, there was no possibility of the sponsor/donor to have influenced the design of the study; data collection; analysis; interpretation of the data, and in the determination to publish the results.

DATA MANAGEMENT

All data collected were cleaned, categorized and stored in a central project database at the Department of Educational Communication and Technology, Kenyatta University. The data were stored in a cabinet where only the researcher and his Supervisors had access. Data were analyzed without the personal identification codes of the respondents. Pseudonymization and anonymization were used to protect the identity of the participants who took part in the study.

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