



Project Report **Africast**

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Preface by the Supervisors


Dr. Veronika Diem and Prof. Dr. (em.) Ernst W. Mayr

Africa is said to be the rising continent of this century, it has immense potential, and it is at Europe's southern doorsteps. Africa is also a very important issue on the political agenda in Germany, in relation to many areas, like the economy, migration, or globalization. Hence it appears very justified that a team – our team – of the TUM: Junge Akademie selected this topic in general and were highly motivated to explore in particular the area of academic and student relationships with Africa. And, to make the whole project more concrete, based on real experiences and not just statistics and surveys, they picked a specific country (Ghana) and a specific university (KNUST, the Kwame Nkrumah University of Science and Technology in Kumasi, the second largest city in Ghana). From its orientation, KNUST has many attributes in common with TUM, and, in terms of numbers, their number of students is even a bit larger.


After collecting a lot of relevant information about Ghana and KNUST, the team established contact with the student community

from Ghana at TUM, as well as with a number of TUM faculty with projects and connections in Africa. The most evident outcome and current showpiece of the project is a series of seven podcasts, produced in a really professional manner, and available on YouTube, Spotify, and Soundcloud. These podcasts deal with a number of instructive topics and issues, like student life and cultures in Ghana, various issues of the Ghanaian economy, start-up culture, etc. So far, the distribution of these podcasts has been quite acceptable and encouraging, and it is a pity that, because of the Corona crisis, some supporting events like a workshop scheduled for March had to be cancelled.

In the final phase of the project, it is planned to evaluate the effectiveness of methods like podcasts in the attempt to improve familiarity with social and, especially, academic contexts in different countries considering things like student life and general requirements and outlooks. ■

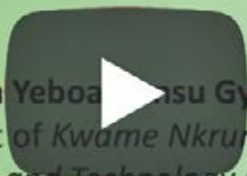


Africast Episode 1 - Student Life in...




Africast

Episode 1 – Student Life in Ghana

Guest:  **Jemima Yeboah Asu Gyau,**
Student of *Kwame Nkrumah University of
Science and Technology (KNUST)*, Ghana

Interviewed by **Jaimee Lau,**
Student of *Technical University of Munich (TUM)*

inspired by
TUM: Junge Akademie 

Africa on the Rise

Countries like Ghana, Kenya, Senegal, Ethiopia or Tanzania are among the fastest growing economies in the world. According to estimates by the German Federal Ministry for Economic Cooperation and Development (2020), Africa will have the world's biggest potential labour force by 2035. Strong African education, research, and innovation systems will therefore play a decisive role in global development.

International academic cooperation can be hugely beneficial to all countries involved. The Technical University of Munich (TUM) has recognized this potential and launched the *Africa initiative* in 2018, which aims to establish and promote long-term cooperation with partners from the African continent in the fields of education, research and entrepreneurship. There are already around 140 projects and exchange agreements between TUM and institutions in 20 African countries. One area of focus is Ghana, where TUM has built up a partnership with the Kwame Nkrumah University of Science and Technology (KNUST) located in the city of Kumasi. Furthermore, a team of TUM experts together with several partners in Africa has developed the off-road capable electric utility vehicle “aCar,” intended to make people in isolated rural regions of Africa mobile and provide them with better access to healthcare, educational institutions and business activities. Another related project is the “ADLAND” consortium, led by the Chair of Land Management. They work on responsible and intelligent land management concepts and their practical application. The mission includes reducing the unequal distribution of agricultural land in Africa and promoting a more effective use of African soil (Technical University of Munich 2020).

TUM researchers and students in the project “FOG Net” are working on obtaining water from unconventional resources such as dew and fog. In areas with little rainfall, this can represent a feasible addition or even an alternative to using groundwater supplies (idem). Along with this, in 2018, TUM alumni decided to start the non-prof-

it organization *TU eMpower Africa e.V.* This accredited university group of TUM is driven by students, researchers, alumni and friends of TUM and examines how energy transition can foster sustainable development of communities in Africa. The mission is to improve the supply of electricity, drinking water and food in rural communities in sub-Saharan Africa through interdisciplinary research-based solutions. The energy-water-food system built in St. Rupert Mayer, Zimbabwe, is the first of its kind. Solar-powered water pumps extract drinking water and support irrigation, making year-round farming and higher yields possible. The resulting increase in agricultural productivity provides more organic waste, which is recycled in biogas plants.

The long-term vision is to scale up the technological innovations to become economically sustainable, so that profits from food sales help return the initial investment for the solar-powered infrastructure. The sustainability of the projects is ensured through the involvement of local communities, providing them with professional training and therefore ensuring the support for the operation at the technical and social level. With the first pilot project in Zimbabwe, the initiated agribusiness has provided full-time jobs for a farm manager, an accountant, and four farmworkers. *TU eMpower Africa e.V.* aspires to initiate further projects with local stakeholders, including African universities, and to spread the word on scientific conferences to create a global network.

Even though TUM's *Africa initiative*, the NGO *TU eMpower Africa e.V.* and also the *Ghana Students Union-Munich*, supporting students from Ghana with their studies and careers in Munich, represent a huge potential for the young academic generation of TUM, only few students seem to be informed about it. Successful research partnerships between Europe and Africa depend on individuals and organizations with sufficient information about each other's countries.

While the idea for international collaboration often comes through media such as films, music, written articles or documentaries, the long-term success of such projects depends on a mutual understanding of each other's circumstances, challenges and motivations. Ghana, like most of Africa's nations, suffers from the fact that it is hardly represented in popular media and science in Europe.

We, as team Africast, identified the lack of information about the academic cooperation between TUM and the African continent as a major challenge for the success of the partnership. This is why we have made it our mission to raise awareness and interest for the academic opportunities in Africa, focusing in particular on Ghana. With the realization of an online podcast series, we aim to inform the public about ongoing projects and initiatives in this context. Expertise, a sense of humor and spontaneity are our guidelines for the cross-cultural interviews.

After a general overview of Ghana and the life of young academics at KNUST in the first two episodes, we address more specific topics in the subsequent episodes, including electronic waste or land management in African countries. We see ourselves as neutral reporters who link general information with first-hand experience reports and make them accessible to a broad public. One may be tempted to talk mainly about cultural differences, but our claim is to highlight interesting, perhaps unexpected, similarities between Africa and Europe.

Each of the interviews lasts about 20 minutes and for reasons of authenticity we have refrained from editing the audio files in any form. In this modern and fast-paced world, we consider 20 minutes as the perfect time frame for spreading a message without overloading the listeners with too much information.

In order to achieve the best possible quality, we conducted the interviews in a professional dubbing studio with the support of a sound engineer. In total, we organized three studio sessions and produced seven podcast episodes. Starting in June 2019, we published a new podcast episode once a month. The podcast series is available free of charge on the online platforms YouTube, Spotify, Soundcloud and iTunes.

Since we consider students of TUM as the most interesting subgroup of our audience to understand the overall impact of our project and to draw final conclusions, we decided to organize a multinational workshop with TUM students from Germany and Ghana in March 2020. Unfortunately, we had to cancel the networking workshop because of the COVID-19 pandemic. Due to the external circumstances we decided to conduct the workshop in August 2020 as an online workshop with a smaller group of participants, who listened to one podcast episode and filled out an evaluative questionnaire. The online workshop featured a talk from the TUM Seed Center, providing higher education at the intersection of sustainable energies and entrepreneurship and offering doctoral scholarships for African students. Furthermore, the NGO *TU eMpower Africa e.V.* and the *Ghana Students Union-Munich* presented their work.

We received a total of 27 filled-out questionnaires, eight of them from individuals from Ghana. The survey results serve as a basis for the qualitative research project, which is presented in the following. ■



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Abstract

We, team Africast, have set ourselves the goal to raise awareness for and interest in the academic cooperation between the Technical University of Munich (TUM) and the African continent, focusing in particular on Ghana. With the realization of an online podcast series, we aim to inform the public about ongoing projects and initiatives in this context.

To evaluate the impact of our project and to improve our podcast series, we conducted a scientific survey guided by the following research question: "To what extent does the podcast series Africast enhance knowledge and interest with respect to the scientific cooperation between TUM and the African continent among students at TUM?"

In this research, we distinguish between three indicators, namely *active* and *passive interest* as well as *factual knowledge* in order to measure an individual's awareness of a topic. Based on qualitative and quantitative research methods, we conclude that the online podcast series "Africast" is an effective format to promote interest and knowledge about the scientific partnership between TUM and African countries.

1. Background

a. Relevance of Ghana in a Global Context

Ghana was the first country in sub-saharan Africa to become independent from colonial rule in 1957. The country has experienced no civil wars since its independence and its current democratic political system has been stable since 1993 with peaceful transitions of power between political parties. This stability has allowed Ghana to grow its GDP more reliably compared to neighboring countries in western Africa. The growth rate has been consistently positive since 1983. In 2011, Ghana became the fastest growing economy in the world for the first time, mostly caused by the start of oil production in late 2010 (Standard Bank 2011). Before its independence, Ghana was known as the colony of the "Gold Coast." This is still reflected today with gold being Ghana's largest export by trade value, followed by oil and cocoa (Observatory of Economic Complexity 2018).

What sets Ghana apart from many other nations is how they spend their budget. Education accounts for 20 to 30 percent of government spending, which is reflected in a rapidly increasing number of students in secondary and tertiary institutions (Trading Economics 2020a, Trading Economics 2020b). The Ghanaian leadership is aiming to diversify its economy and prepare for sustainable growth in the coming decades, building on the foundation of a well-educated workforce.

The two largest public universities in Ghana are the University of Ghana in the capital Accra and the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi (University of Ghana 2018). Apart from students enrolled on-campus, Ghanaian universities also offer extensive programs for part-time studies and remote studies, allowing even more people to pursue a degree who might otherwise be hindered by financial difficulties (Siabi-Mensah, Badu-Nyarko and Torto 2009). The term “sandwich students” is commonly used for those that pursue a job outside of university during the regular academic semester and then participate in courses at the university during the semester break. Students from Ghana are also increasingly visiting universities abroad (Trading Economics 2020c).

Ghana’s universities have a stronger focus on education than on research compared to their European counterparts. Nevertheless, the number of research facilities is increasing. Research institutes in Ghana are still hindered by a lack of funds. They are at risk of being stuck in a feedback loop, where low funding leads to fewer internationally visible publications, which in turn leads to less funding (Alabi and Mohammed 2018). This loop can be broken by co-operating with internationally recognized universities like TUM. Reciprocally, TUM benefits from working with researchers in Ghana, because they gain access to environments that are only available there. The aCar project, for instance, which led to the development of a low-cost electric vehicle for rural areas, was able to verify and improve their product design in Ghana’s rural environment with feedback from the local population.

b. The Kwame Nkrumah University of Science and Technology

The Kwame Nkrumah University of Science and Technology (KNUST) was founded as the Kumasi College of Technology in 1952 and gained university status in 1961. The main campus is situated

close to the city of Kumasi, which has over 3 million inhabitants and is the current capital of the Ashanti Region in Ghana, as well as the traditional capital of the Asante Kingdom (World Population Review 2020). The kingdom, led by a king called the Asantehene, has existed since 1670 and the royal lineage continues to this day (Shillington 1995). The current Asantehene, Osei Tutu II, started his reign in 1999 and is also the current chancellor of KNUST.

Unlike the coastal territories of modern-day Ghana, which were formerly the British colony of the Gold Coast, the further inland situated area of the Asante Kingdom strongly opposed British influence and maintained varying degrees of self-rule throughout the colonial era. In 1957, the modern nation of Ghana was formed by combining the territories of the Gold Coast colony, the Asante Kingdom, British Togoland, and some more territories to the north (Shillington 1995).

The foundation of KNUST is also tied to the royal family of the Asante Kingdom. Asantehene Prempeh I strived to modernize the kingdom and envisioned a university in Kumasi. His younger brother succeeded him in 1935 as Asantehene Prempeh II and oversaw the establishment of the Kumasi College of Technology, which later became KNUST (Akyeampong 1999). Initially, the college consisted of the School of Engineering and the Department of Commerce. Over time, more schools and departments were established, for instance the faculties of pharmacy, agriculture, and architecture. As the college grew, the focus shifted increasingly towards science and technology, with the result that some departments, including the department of commerce, were separated and handed over to other institutions (KNUST 2020b).

Shortly after Ghana's independence in 1957, the government decided to establish a public and independent university system in Ghana, which led to the foundation of two universities in 1961: The University of Ghana based on the University College of the Gold Coast in Legon, Accra, and KNUST in Kumasi. Today, these two universities are the largest universities in Ghana, each having over 30,000 students (KNUST 2020b).

KNUST was named after Kwame Nkrumah, the first prime minister and president of Ghana. Nkrumah envisioned a strong na-

tional education system in Ghana. However, after he transformed the country to a one-party state in 1964, and was overthrown in a revolution in 1966, the university was renamed, not including his name anymore. Kwame Nkrumah was added to the university's name again in 1998.

Today, KNUST is ranked as the best university in West Africa and 14th best in all of Africa, according to the US News Best Global Universities ranking (US News 2019). UN Secretary General and Nobel Peace Prize laureate Kofi Annan, who visited TUM in 2018, is also an alumnus of KNUST. Since 2005, KNUST follows a collegiate model, where the different colleges within the university operate mostly autonomously. There are currently six colleges:

- College of Agriculture and Natural Resources
- College of Health Sciences
- College of Humanities and Social Sciences
- College of Art and Built Environment
- College of Engineering
- College of Science

There is also a dedicated Institute of Distance Learning for those who seek a degree while working full-time (KNUST 2020a).

The campus has six halls of residence for its students. Additionally, there are private hostels around the campus for non-resident students. Other facilities on the campus include: an art gallery, two churches, a mosque, botanic gardens, and a swimming pool (KNUST 2020c).

c. What is Interest and how can it be measured?

In relation to our research question, we have identified knowledge as well as interest as two areas of particular importance for our analysis, and defined knowledge and interest as the most relevant dependent variables.

In the literature, knowledge and interest as well as their interconnection have been subject to a wide range of interpretations (Habermas 2015). In order to evaluate whether we could enhance either one or both variables, the two concepts must be defined and differentiated from each other. More specifically, an attempt is made to formalize what we call *passive interest* and *active interest* as two different dimensions of interest. In a second step, knowledge and its interconnection to interest will be discussed.

Guilford et al. (1954) have defined interest as a “general behaviour tendency an individual has to be attracted to a certain class of incentives or activities.” This definition is interesting in the sense that it differentiates between two types of attractions. The former, a mere attraction to incentives, is considered as *passive interest* in our analysis. Important cases of such incentives include a need for information, desire for knowledge and in general further engagement with the topic. In contrast, we classify an attraction to activities as active interest, where behaviour patterns have a proactive nature in common. Usual patterns of *active interest* may appear in the form of a commitment to active participation, seeking out for opportunities and, more generally, making original contributions towards a certain topic.

Another analogy for active and *passive interest* in the literature can be found as the “exchange theory of interest groups” (Salisbury 1969). The authors distinguish between an entrepreneur/organizer (practicing active interest) and a customer/member (practicing *passive interest*). They claim that both interest groups are necessary in a sense that members perceive benefits offered by leaders who in turn get rewarded. In fact, a sufficient number of both interest groups are indispensable for a group to survive, ensuring a balanced exchange.

With respect to knowledge, we solely focus on propositional/descriptive knowledge, i.e. awareness of facts that can be expressed in words (rather than procedural knowledge exercised in the performance of some task). In the context of a podcast episode, enhanced knowledge can be measured in memorising quantitative or qualitative information presented in the interview. At first sight, interest and knowledge seem to be two decoupled domains that could be analyzed separately. Yet, there are studies which have measured significant correlations in a participant's interest (either of active or passive nature) and knowledge towards a certain topic. As an example, Garner et al. (1991) studied the interdependencies between prior knowledge (before reading the article, referred to as topic knowledge), interest and posterior knowledge (after reading the article, referred to as text recall). Garner et al. (1991) noted that among the participants comprising a group of adults, these three variables were highly associated. More specifically, they observed that increased prior knowledge generally implied more intense interest in the topic.

Initially, we followed an equivalent procedure in the sense that we wanted to evaluate the participant's knowledge a priori, a poste-

riori and analyze their interest. As we had to shift our workshop in-person format to an online format, we had to adapt our interview approach and could not analyze the participant's prior knowledge. Nevertheless, we were interested in isolating the three variables (active interest, *passive interest* and knowledge) in order to analyze the impact of the podcast series and possible interdependencies or correlations between the variables.

d. Podcast as a Form of Communication

More than a decade ago, various studies have classified podcasts as a possibly revolutionary form of communication. In 2004, the word “podcast” was declared word of the year by the New Oxford American Dictionary. The authors argue that the podcast hype in the 2000s was primarily caused by a rise of portable digital audio players including the iPod nano and iPod Touch. Even though the technical capabilities of such devices were very limited in terms of memory capacity and storage, they were the first portable devices with internet connection and, hence, provided a revolutionary new way of listening to simple audio files. Despite significant advances in technology, the authors already recognized reasons for the potential success of podcasts — their nature of allowing individuals to listen to “what they want, when they want, where they want, and how they want” is perfectly suited to students (Jham 2007, Soc 2006).

In the past years, technological breakthroughs including the invention of the smartphone, worldwide internet connection (3G, 4G, LTE) and large internet streaming platforms, including Spotify, YouTube and Soundcloud, have laid the foundation for the rise of podcasts as a media format. A recent study of AS&S Radio and Facit Research in 2018 has performed a quantitative study with more than 3000 people. They classified a person as a podcast consumer if he/she has listened to at least one podcast in the past twelve months. Based on this definition, they found that 29% of all questioned individuals are podcast consumers. As predicted by the two studies mentioned earlier, primary target groups are indeed young adults. Out of the 29%, 40% were between 30 and 49 years old and 31% between 14 and 29. Finally, according to AS&S Radio, people who consume podcasts on a regular basis have often received higher education and share a deeper passion for technology than people who don't consume podcasts (Domenichini 2018). Given that our primary target group, students from TUM, is largely concentrated in the age group of 18 to 30 years,

is at an advanced stage of education and with shared interests in technology, conveying information in the form of podcasts seems to be a reasonable choice.

Moreover, the study explains that given the diverse audience of podcast listeners, their ways of listening to podcasts differ significantly. Just to name two differences, regular podcast listeners use both conventional websites as well as mobile apps, 25% are willing to pay for streaming services while the majority prefers to enjoy free podcasts. To match such trends, we have published our podcast series on Spotify (app, paid), Soundcloud (app/website, free), YouTube (app/website, free). Finally, according to AS&S, the topics regular podcast consumers listen to are diverse. The most prominent include society and culture (21%), education (20%) as well as science (17%). With the podcast series Africast, the attempt was made to cover all of these areas by including a broad range of topics.

There are many successful examples of scientific podcasts. The University of Maryland School of Medicine (USA), for instance, produced a podcast sharing information about topics relevant to medical studies, which has achieved 20.000 downloads within a short period of time as well as very positive feedback by the students (Frayha 2019).

The online podcast series Africast, which informs TUM students about the scientific cooperation between TUM and the African continent, is based on the assumption that a podcast is a suitable communication format for the target group of students. A comprehensive analysis of the feedback and the evaluation of how our listeners perceived the podcast format is given below.

2. Goals and Methods

a. Description of the Research Design

The online podcast series Africast was created in order to enhance knowledge and interest with respect to the academic cooperation between TUM and the African continent among students at TUM. Accordingly, the online podcast series is a significant element of our research design, which is supported by an online survey. In order to determine to what extent the podcast series Africast increases knowledge of and interest in the cooperation between

TUM and the African continent, we analyzed the podcast statistics as well as the survey statistics. The research outcomes are presented in the following.

The first two episodes of the Africast podcast series were recorded in May 2019. In July 2019 the third and fourth episode followed and in August 2019 we recorded three more episodes. In advance, meetings with the podcast guests took place to discuss a rough guideline for the questions and answers. It is important to note that at no time did we use a given scripted text. This was important to us, so that the dialogues could develop spontaneously and the speakers act naturally. To ensure the best possible quality, the interviews were conducted in a professional dubbing studio with the support of a sound engineer.

Each episode lasts around twenty minutes. We consider this as an appropriate time frame for conveying a message without overloading the listeners with too much information. For reasons of transparency the recordings were not edited or modified afterwards. We start each episode with a short introduction of one minute in order to give the podcast series a standard format and sense of continuity. This intro explains who we are and what the project Africast is all about. To increase the information value of the podcast series, we decided to implement several “infoboxes” that provide additional information on the screen while listening to the episode.

To offer the audience a brief introduction about Ghana, the first two episodes cover general information about the culture, the history and the geography of Ghana. Some of the topics discussed are

the influence of the colonial past, the independence of Ghana, the national languages, the tradition of national service, the university system or possible career perspectives.

A total of seven podcast episodes were published by the end of 2019. After the thematic introduction in the first two episodes, the subsequent podcast episodes focus increasingly on concrete projects and cover not only Ghana but also other African countries. The specific topics of episodes 3 to 7 include, for example, electric mobility, land and waste management, economic growth and startups.

b. Sample and Data Collection

In order to evaluate the effect of the podcast series Africast, we conducted a survey. In August 2020, we held an online workshop via Zoom, where the participants were asked to listen to the podcast episode 6 “Land Management in Africa” with Prof. Dr. Walter de Vries, TUM professor for land management at the Department of Aerospace and Geodesy. After this twenty-minute audio part, the participants were asked to fill out the online survey.

We decided to create two different questionnaires, one explicitly for students from Ghana and one for all other participants. This allowed us to ask more specific questions per target group. The two questionnaires were similar in structure and differed only in a few specific questions. The questionnaire for students from Ghana included 30 questions, three of which were open questions. The questionnaire for the other workshop participants featured 31 questions with only a single question that was not standardized.



Figure 2.1.1: Release schedule of the Africast series

In total, we received twenty-seven filled-out questionnaires, eight of them from individuals from Ghana. Around 63% of all respondents are or were enrolled at TUM. With regard to the age distribution, there was a relatively large difference between the two questionnaires: Out of the participants who did not come from Ghana, almost 68% were under 24, while 75% of the participants from Ghana were 30 or older. This confirms our experience that many students from Ghana tend to be older. This may be due to the fact that Ghanaian students who graduate from accredited tertiary institutions are required under law to do national service for one year.

The two distinct surveys served as a basis for the qualitative analysis guided by our research question and the literature review.

c. Data Analysis

Our research is not about achieving statistical significance in order to draw conclusions about a larger population. We decided to answer the research question by working with a rather small sample size. Since the research question is very specific, we preferred the option of possibly obtaining very specific and detailed research results rather than results that can be generalized. Consequently, we refrained from applying statistical models, but evaluated the numerical data from Youtube as well as the survey in absolute terms. This method allowed us to quantify the research variables and uncover interesting patterns. In addition, we included a few open questions in the survey. With this method, we hoped to obtain individual input from the respondents. In fact, the open questions resulted in unexpected and very interesting information that would not have been revealed in closed questions with standard answers.

d. Variables

All in all, Ghana is an African country with a well-established educational system in primary and secondary education as well as in the tertiary sector. Although the number of research departments in Ghana is increasing, there is still a lack of funding and of international collaborations. One reason for that might be that not enough European researchers perceive researchers from Ghana as promising partners. An explanation for this could be that their general knowledge of and interest in Ghana and the African continent is rather low, perhaps due to a lack of information.

As podcasts turned out to be an acceptable format for disseminating information, we asked students at TUM, the researchers

of the future, if podcasts increase their knowledge and interest with respect to the scientific partnership between TUM and the African continent, in particular Ghana and the KNUST. To answer the research question, we differentiated between three dependent variables that are influenced as a result of the podcast: a) *passive interest*, b) *active interest* and c) Factual knowledge.

3. Outcome and Discussion

a. Analysis of YouTube Metrics

Africast is available on multiple different platforms, namely on YouTube, Soundcloud, Spotify and iTunes. However, YouTube stands out as the main platform for the podcast series. It is the only one where the podcasts are available in video format, not just in audio, with additional, visual information in the form of “infoboxes.” We looked at the analytics data on YouTube to see how our episodes perform.

Table 3.1.1 shows a general overview of each episode’s performance based on four metrics:

- Views: number of views (not unique, could be multiple from same person)
- Average view duration: watchtime per view (indication of how engaging a video is)
- Impressions: number of shown impressions (search results, suggestions, browsing, etc.)
- Click-through rate: percentage of impressions that were clicked on

These statistics range from June 22, 2019 to August 23, 2020. This means that older episodes have an advantage, since they have been available for a longer period. This advantage is somewhat mitigated, since this analysis takes place over half a year after the last episode was published. The oldest episode has statistics spanning over fourteen months and the youngest over seven months. As we will see later, all but one episode have reached a stagnation point by this time, so their metrics are not significantly changing anymore.

The number of views is strongly influenced by the extent to which we have promoted a video, sharing it with friends and colleagues and distributing the link via social media. Episodes 1 and 4 have been advertised the most, which correlates with them being

the most viewed ones. To see which videos perform well independently of advertising, we also compare how the view counts of episodes developed over time. We use episode 2 (“Cultures of Ghana”), which did not perform extraordinarily in any metric, as a benchmark. Figure 3.1.1 compares it to the less viewed episodes: 3, 6, and 7. Figure 3.1.2 compares it to the more viewed episodes: 1, 4, and 5.

Episode	Views	Avg View Duration (min)	Impressions	Click-Through Rate
1	386	2:18	1161	3.5%
2	100	3:13	692	3.8%
3	113	2:42	720	5.1%
4	348	3:44	1048	3.3%
5	234	3:30	1555	6.5%
6	110	4:10	861	4.0%
7	116	3:12	268	7.8%

Table 3.1.1: General overview of episode metrics

Episodes 2, 3, 6, and 7

As can be seen in Figure 3.1.1, the episodes 2, 3, 6 and 7 all have similar view counts over time. They are the four episodes of the series with the lowest view counts at the time of analysis, each being slightly above 100 views. Each episode shows the same trend. The number of views grows quickly right after publication. This growth

Views over time for episodes 2, 3, 6, 7

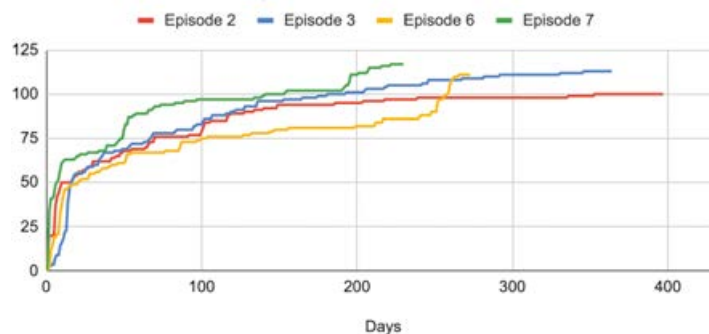


Figure 3.1.1: View counts of episodes 2, 3, 6, and 7 over time

slows down quickly within the first few days and stagnates. It appears that the episodes only gain views due to initial advertising by the publishers, e.g. on social media, and fail to attract new viewers without it. Nonetheless, episode 6 (“Land Management”) has the highest average view duration with over four minutes, which indicates it might be more engaging than other episodes. It also has a second growth phase in August 2020, which is caused by our research survey requiring participants to watch episode 6 before filling out the questionnaire.

Episode 7 (“Economy & Startups”) is slightly unusual, because it has two distinct growth spurts after its initial stagnation, the latest one being over 190 days after the episode was published. It also has the highest click-through rate at 7.8%. It is possible that this episode has more potential to grow. However, these growth phases could also be caused by the fact that the newest episode is linked on top of the Africast project webpage, which means it could gain new viewers whenever the Africast project was promoted in general.

Episode 1

For obvious reasons, the first episode (“Student Life”) can be considered as an outlier. It has the highest view count, which is probably due to the fact that it is the first Africast episode most people watch. However, it also has the lowest average view duration, which might be due to the same reason. Uninterested new viewers will only listen to the podcast for a short time. Figure 3.1.2 shows that its view count grew very quickly at the beginning as re-

Views over time for episodes 1, 2, 4, 5

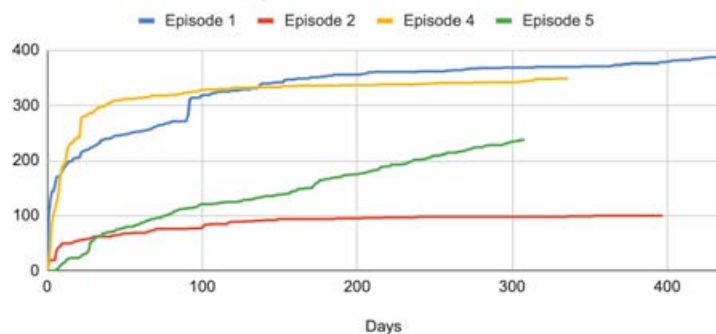


Figure 3.1.2: View counts of episodes 1, 2, 4, and 5 over time

sult of intensive advertising. A link to the episode was even shared with an audience of over 100 students during an information event, which led to a lot of views, but probably only few meaningful interactions. This might have further reduced the average view duration of the episode. Episode 1 has seen additional growth during the next months while other episodes were being published. Nonetheless, after the podcast series stopped being advertised regularly on social media in 2020, the growth stagnated.

Episodes 4 and 5

Apart from the first episode, episode 4 (“Renewable energy systems”) and episode 5 (“Infrastructure & Mobility”) stand out with a high number of views. They both appear to be more engaging than the other episodes with an average view duration of roughly three and a half minutes. However, their view counts are growing in very different ways.

Episode 4 experienced quick growth in the beginning due to promotional efforts. This initial growth spurt lasted for over two weeks, which is longer than the other episodes. This correlates with our observation that episode 4 generated more interest on social media and was shared by more people, likely due to the fact that renewable energy was a widely discussed topic at that time, potentially influenced by the “Fridays for Future” movement in 2019. However, after the initial successful phase, the episode also stagnated.

Episode 5 stands out when comparing the view counts over time. As can be seen in Figure 3.1.2, it is the only episode that does not stagnate, but keeps growing linearly. This result is quite surprising, since the episode did not appear to be very successful at first. What sets this episode apart is that it is favoured by the YouTube algorithm for reasons unknown to us. It has the highest number of generated impressions and a high click-through rate of 6.5%.

There are five sources of impressions on YouTube:

1. Results in the YouTube search
2. Suggestions after another video and on the sidebar
3. Browse features on the home page
(Subscriptions, Trending, etc.)
4. Thumbnails on a channel page
5. Thumbnails in playlists

Search, suggestions and browsing, are arguably the more powerful ones for reaching new audiences, since the channel page and playlists already require some interaction with the video creator or series.

The uniqueness of episode 5 is most clearly seen when comparing the traffic sources of the different episodes. Figure 3.1.3 shows the traffic sources for episode 4. External sources, which come from advertising on social media and other platforms, are by far the biggest factor. For all other episodes, apart from episode 5, external sources are the largest contributor as well. However, as seen in Figure 3.1.4, episode 5 has the YouTube search as its biggest traffic source instead.

Episode 5’s success in YouTube’s search algorithm leads to an increased view count, but it also relates to one of the lowest average view durations at 2 minutes and 23 seconds compared to other traffic sources, as can be seen in Figure 3.1.4. For instance, viewers coming directly from the video link had a much higher average of six minutes seventeen seconds. The other two kinds of “strong” impressions, browse features and suggestions also had higher average view durations, with suggestions having the highest average at seven minutes sixteen seconds.

This observation can also be made when looking at the data for all seven episodes, where suggestions result in one of the highest average view durations at five minutes two seconds, significantly above the total average of three minutes thirteen seconds. However, when looking more closely at the data, we discover that most suggestions are being shown after the viewer watched another episode of Africast, which implies that they already have some interest in the series.

Conclusions from YouTube Metrics

In general, the success of the podcast significantly depends on advertising on social media and other platforms. Nonetheless, the episodes were also able to attract some new viewers independently of our efforts through impressions generated by the YouTube algorithm. In this regard, episode 5 (“Infrastructure & Mobility”) stands out in particular, continuously generating new impressions in the YouTube search and thus attracting new viewers even without the publisher’s influence.

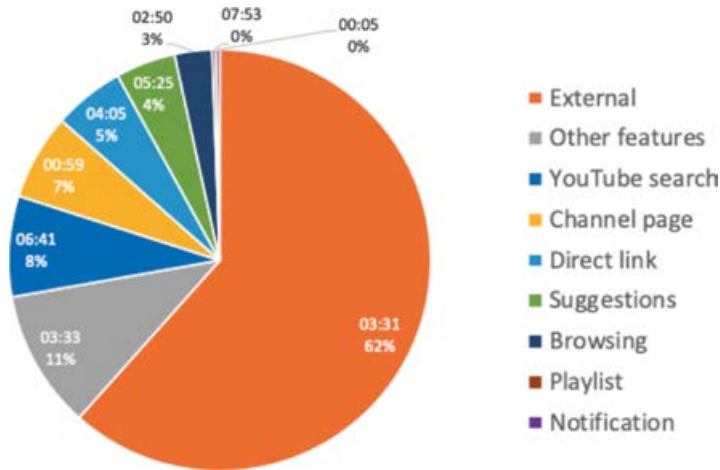


Figure 3.1.3: Traffic sources with average view durations for episode 4

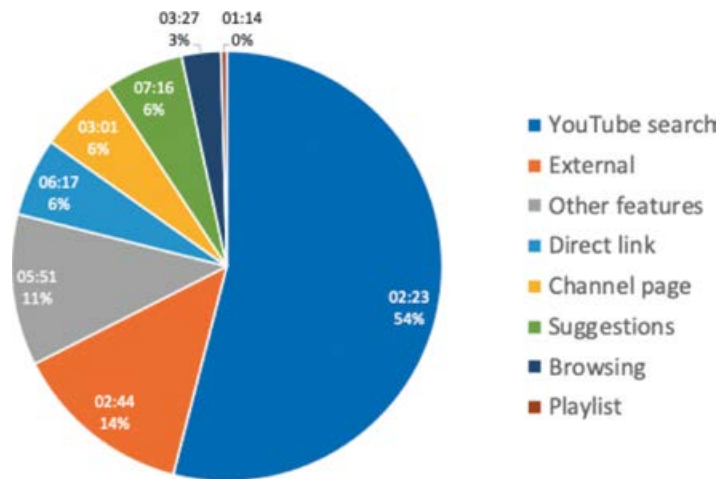


Figure 3.1.4: Traffic sources with average view durations for episode 5

Furthermore, the average view duration for each view can indicate how engaging the content was for its viewers. Given that our episodes are mostly around twenty minutes long, the total average of slightly over three minutes seems quite low and means that most viewers did not watch the episodes in full. Further research should

investigate how the viewer's attention can be maintained for longer or whether the podcast format should be shortened.

b. Analysis of Survey Statistics

Survey for Students from Ghana (8 participants)

Relevance of Ghana

Half of the respondents (50%), who have their origin in Ghana, think that German students have too little knowledge about Ghana.

To learn more about the relevance of Ghana, we asked the respondents how relevant Ghana's economy is today in a global context. A few answers are presented in the following:

It is very relevant since Ghana is a developing country and now picking up in terms of its economy.	Is quite appreciable and considered as a developing country	Relevance of an economy is relative. But obviously, Ghana's path toward middle income status is gaining track and is attracting international investors	Very relevant
Was doing fine with great improvement in the education sector .	Ghana's economy before covid was seen as robust having maintained sustained economic growth rates. It's the 2nd largest producer of cocoa and also overtaken South Africa as the world largest producer of Gold. Against this background Ghana has a place in the world's economy	much relevant .	Ghana's economy is extremely relevant globally since it is a major player in Africa and also host a myriad of raw materials that the world depends on

Next, the participants were asked what the global relevance of Ghana's economy will be like in 10 years. Some answers can be read here:

I think since Ghana is now trying to create the atmosphere for more investors, research and developments, the economy will improve tremendously in the next 10 years	Hope it gets better	Ghana will have moved past middle income status by 2030	Very relevant
cant tell now	Super relevant as Ghana wants to self-reliant which presupposes that it will be a leading agricultural, manufacturing and industrial hub	I see a very vibrant economy with good leadership and management	All things being equal (less covid) the economy of Ghana is expected to grow in services, and industry. Thanks to the high tech penetration and government's industrialisation policy. The economy will become more sustainable if it is diversified (currently it is dependent on Cocoa, gold and oil)

Podcast

Half of the respondents from Ghana (50%) listen to podcasts a few times a month.

It is important to note that 63% of the respondents from Ghana are not sure if the Africast podcast series is an adequate instrument to inform students about Ghana. However, all participants of this survey (100%) feel that the Africast podcast series should be heard by more people.

- 50% say that most of the information of the podcast episode was not new to them. We can conclude that the students from Ghana were familiar with more information than the other TUM students, yet they were also able to learn new things.
- 50% of the respondents from Ghana think there could have been more interesting topics for the podcast episodes. This is an interesting finding. In retrospect, our podcast topics were perhaps too general to successfully address students from Ghana.
- 88% of the survey participants think that the speaking parts of the interviewer and the guest should be more balanced. Interestingly, the students from Ghana seem to have a completely different opinion than the other TUM students (90% think that the speaking parts of the interviewer and the guest should not be more balanced). It would have been helpful to clarify personally how this great discrepancy came about.

Finally, all participants (100%) would be interested in a podcast episode with more than one guest.

Survey for the other Workshop Participants (19 participants)

Active Interest

- 79% would like to travel to Ghana or another African country as a tourist.
- 21% could imagine studying at KNUST in Ghana for one semester or for a complete Master's degree/PhD.
- 84% would be interested in doing an internship or work in Ghana or in another African country.
- 47% would be interested in joining a NGO in Ghana or in another African country.

Passive Interest

- 63% are planning to listen to more Africast podcast episodes.
- 37% are going to subscribe to the newsletter of the Africa initiative.

- 53% would like to network with TUM students from Ghana or TUM students/ lecturers who are engaged in a scientific project in Africa.
- 63% are going to talk with friends and family about the Africast podcast.

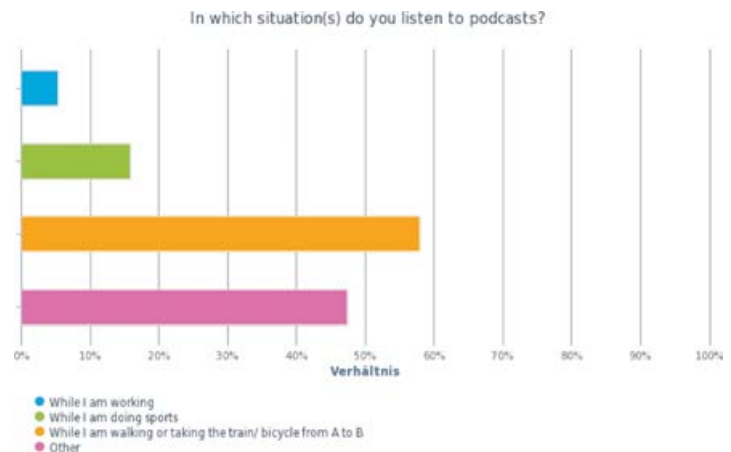
Factual Knowledge

With one of the three knowledge questions we wanted to find out how many people carefully read the infoboxes while listening to the podcast. The specific information was, hence, not mentioned in the podcast episode, but only displayed in the infobox. 58% answered this single choice question correctly.

With the other two knowledge questions, we asked for information that was mentioned by our guest during the podcast episode. In each case more than 70% knew the correct answer.

Podcast

All participants (100%) think the Africast podcast is an adequate instrument to inform students about Ghana.



- 95% feel that the Africast podcast series should be heard by more people.
- 84% say that most of the information of the podcast episode was new to them.
- 32% think there could have been more interesting topics for the podcast episodes.

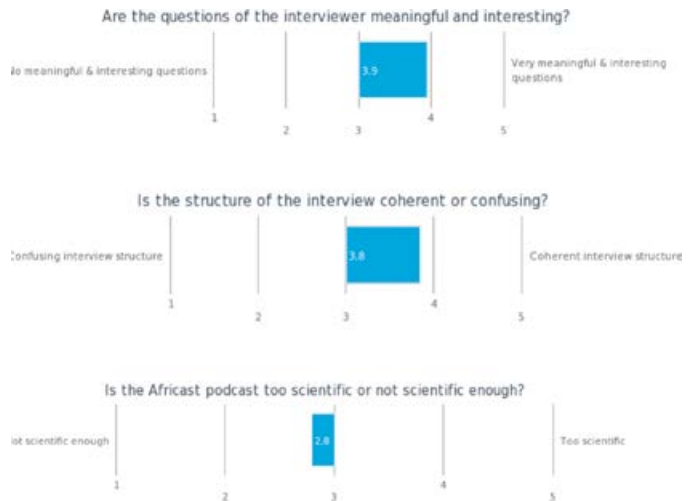
- 90% think that the speaking parts of the interviewer and the guest should not be more balanced.
- 84% would be interested in a podcast episode with more than one guest.
- 47% of respondents listen to podcasts a few times a month.
- 90% think that the Africast podcast episodes with a duration of about 20 minutes are just right, and, hence, not too long or too short.

According to 84%, the information density of the Africast podcast episode is just right, and, hence, not too low or too high.

Based on the question "What do you think of the infoboxes?" we received the following answers. Overall, the feedback regarding the infoboxes is quite positive. The infoboxes seem to be an adequate instrument to highlight important key information.

Bring life into the podcast by actively engaging in this discussion. Otherwise information does not register easily. Also, important to set context at the start of the podcast - what is TUM Africa Initiative and why is that professor being interviewed.	great summary of the most important points	good	Good Idea!
	Very informative	They give enough information to understand what the Episode is about and about the podcast in general- Great !	Ok
	Short summary and cotinuing links	Positiv, informativ	Loved them!
	Great to emphasise important information!	Generally good, as they sum up the most important facts of the video "section", however I would like to see more supporting pictures, if they are available and suiling (but that's of course not mandatory for a podcast)	They emphasize the most important information. That's actually good.
They are a useful tool to transmit information that is difficult to capture when spoke (e.g. meaning of acronyms).	Great idea. It helps to find the key information real quick when browsing through the youtube video again		Nice short information input
Good and short overview	I do other things while listening so I don't really look at them.		

Further evaluation indicators are displayed in the following:



Conclusions from Survey Statistics

The podcast presents information that was known by many of the Ghanaian participants of our survey, but new to most of our other participants, which reflects the mission of Africast: informing TUM students about scientific projects and initiatives in Africa. On both sides, a significant portion stated that there could have been more interesting topics for the podcast; however, we have no details on what would constitute a more interesting topic for these participants.

The Africast podcast format in itself was received positively by both sides, including a significant number of people who have regular experiences with podcasts. While all non-Ghanaian students agreed that Africast is an adequate source of information, most of the Ghanaian students were skeptical. Nonetheless, most of the Ghanaian students agreed that Ghana's relevance is increasing and students in Germany should be more informed about this development. They might be skeptical about the podcast, because it did not highlight information that they consider the most important. This could be improved with a screening process, where experts, in this case people from Ghana, would check the topics of the podcast before publication and give their feedback on what information is crucial and what is redundant.

When looking at the interest of non-Ghanaian students, surprisingly, *active interest* is more prevalent than *passive interest*. A wide majority would like to visit Ghana or another African country as a tourist or for work, but only a minority would like to study there. This correlates with our hypothesis that most Europeans do not view African countries as a destination for scientific work yet. However, we also need to consider that students usually only go abroad to a foreign university once or twice during their academic lifespan, which means they will only have a small selection of top destinations that they pursue. Students might be more open to travel to Africa as a tourist, for internships or other projects, since those trips can be pursued an unlimited number of times and visiting one country does not exclude visiting another one.

Considering *passive interest*, many participants indicate that they would like to contact more people involved with projects in Ghana and would like to keep learning about related topics. There is a potential for related projects and institutions to approach students based on their existing level of interest.

4. Summary and Future Goals

a. Summary

The Ghanaian economy has been on an upward trajectory over the past three decades, yet a number of challenges undermine growth, redistribution and sustainability. Issues such as electronic waste, infrastructure, mobility and energy supply require innovative and efficient solutions to ensure the sustainable and integrative development of this African country. After more than sixty years of independence, the potential for international partnerships working on scientific solutions is more significant today than ever.

In order to successfully attract academic minds from all over the world, they must have a certain level of knowledge and interest. Evaluating the impact of the informative podcast series Africast, we differentiated between the following three variables: *factual knowledge*, *passive interest* and *active interest*.

In summary, Africast proved to be an effective format to promote interest in and knowledge about the scientific partnership between TUM and the African continent. Most of the participants of the survey rated the design and structure of the podcasts positively. In addition, a majority of respondents indicated *passive* as well as

active interest in engaging with projects, initiatives or individuals from Ghana or another African country. Finally, the knowledge questions were answered correctly by most participants. Consequently, it can be concluded that the information from the podcast and its infoboxes increase the interest and the factual knowledge of the listeners.

The performance of a podcast episode on Youtube depends significantly on advertising on social media and other platforms. Nonetheless, the episodes were also able to attract some new viewers independently of our efforts through impressions generated by the YouTube algorithm.

As the podcast series will continue to be available on various online platforms in the future, Africast will continue to have an informative impact on individuals who listen to the episodes. The episodes can be shared, for example, by organizations and academic institutions as a source of information about specific topics related to Ghana and other African countries.

b. Limitations and Future Goals

The individuals who participated in the survey had to listen to one specific podcast episode before providing their opinion. In the workshop invitation, we shared the link to all podcast episodes. However, we do not know if the persons questioned have listened before to other Africast episodes. This is why we have to assume that the evaluation of the podcast series is only based on the perception of one episode and might therefore be partially biased.

In addition, the online survey was conducted without supervision and the participants were not interviewed on a face-to-face basis. It is important to note that the individuals can easily make false or distorted statements in anonymous surveys. Also, one must assume that questions are sometimes not read carefully. Due to the anonymous online format, the participants had no possibility to give feedback or clarify any questions with respect to the survey.

Since the podcast series has a strong focus on Africa, in particular on Ghana, the team quickly agreed that it would be a great milestone for the project to organize a trip to Ghana. We were highly motivated to experience Ghana's culture first hand and to meet students and professors of KNUST in Kumasi. The idea behind the planned trip was to learn about less popular initiatives in Ghana

and get inspiration for new podcast episodes. Unfortunately, we had to cancel the trip, which was planned for April 2020, because of the travel restrictions during the COVID-19 pandemic.

The fact that we ourselves have never been to Ghana is a significant limitation of the project Africast, as we could only report from a bird's eye view about the project and initiatives. We tried to compensate for this problem by meeting delegates of the KNUST in Munich and by building a broad network with TUM students from Ghana.

Another potential limitation of the project Africast is the cancellation of the networking workshop “Africast presents Ghana & Friends,” which was planned for March 15, 2020. The German government and TUM enforced rigorous hygiene regulations in consideration of the coronavirus. In addition, we felt personally uncomfortable with the risk of infection and decided to conduct our workshop at a later stage. In July, we had no choice but to shift the format to an online event on ZOOM, as we were under pressure to meet deadlines for our research results. We had difficulties to mobilize enough participants for the online workshop and had almost 50% fewer reg-

istrations compared to the workshop on-site. As a consequence, the relatively low number of participants reduces the significance of the evaluative survey that we conducted during the workshop.

Having published a diverse, informative and multifaceted podcast series on a number of platforms matching different habits of podcast listeners, we will continue to draw attention to our recordings. Given that TUM's involvement in Africa is just at the beginning, we are convinced that our podcast recordings can help to inform students about different collaboration projects between TUM and KNUST.

In addition to what we call “*passive interest*”, we aim to stimulate the listeners’ “*active interest*.” We hope to motivate students to participate proactively in research projects, internships abroad or exchange semesters. Over the past twenty months, Africast has been in contact with many people involved in such projects and, hence, we want to support passionate students in realizing their ambitions for African research projects. Whether TUM students need more information about existing initiatives or first-hand advice from students and professors of KNUST – we are happy to connect and help in every possible way. ■



Figure 4.2.1: Team Africast with university delegates from the Kwame Nkrumah University of Science and Technology

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Self Reflection

Back in November 2018, we started as a team of five students with diverse study backgrounds: Political science, mathematics, electrical engineering, robotics and engineering science. Our initial idea was to create a platform for students that depicts how different electives at TUM are linked in order to facilitate the choice of electives across various disciplines.

In retrospect, the lack of team experience might have been one reason why we did not achieve progress throughout the first months with the “StudyNav” platform. We had intense discussions and a variety of ideas but failed to implement any of them. Three months into the project, in January 2019, one of our team members decided to leave the TUM: Junge Akademie.

Despite this setback, we decided to stick together as a team and to focus on a new project. As a team of four, we quickly established an

honest and transparent way of communication and discovered the potential strengths of a small group, including effective team meetings, easy coordination and task sharing and fewer disagreements about the project work.

When we were first introduced to the Africa initiative of the Technical University of Munich, all of us were immediately interested in starting a research project in this context. We quickly identified the key problem that most students at TUM are not well informed about the university's partnerships and initiatives in Africa. Next, we defined an online podcast series as the adequate instrument to share that information with TUM students.

Within a few weeks, we set up a broad network with the TUM International Center, the Ghana Students Union-Munich and TUM professors who are involved in research projects on the African continent. Furthermore, we had the opportunity to meet KNUST university dele-



From left to right: Patrick Sowinski (Team Africast), Dr. Samuel Dodoo (Podcast guest, episode 5), Jaimee Lau (Team Africast), Marius Merkle (Team Africast), Dipl.-Ing. Johannes Winklmaier (Podcast guest, episode 4) and Prof. Dr. Walter de Vries (Podcast guest, episode 6)

gates in Munich and to pitch our project on this occasion. Throughout the exchange with stakeholders, we always received positive feedback and encountered broad interest for the podcast series Africast.

In the following months, we successfully organized the first podcast recordings in a professional studio and planned the release on different online platforms.

However, a few days before our final podcast recording, another team member decided to leave the TUM: Junge Akademie as he could no longer identify himself with our project. This came as quite a surprise, since we had always tried to make sure that everybody was on the same page with project Africast and we had agreed to try to overcome the difficulties of a small team by putting in extra work and motivation.

Again, we were able to overcome this challenge and to complete the Africast project as a team of only three students. Especially while team members were abroad and located in different time zones, the

project work proved to be difficult. During this time, we benefited from the small size of our team, as it facilitated compromises and the management of tasks and meetings.

The successful navigation through the entire project as well as the dynamic team environment was also largely possible thanks to the continuous support of our two mentors and two supervisors.

Our mentors, Matthias Lehner and Dominik Irber, hardly missed a meeting and always made sure that we were moving in the right direction. They gave us a lot of freedom during brainstorming meetings, while also knowing when to intervene and help us get back on track.

Our supervisors, Veronika Diem and Ernst Mayr, always challenged our assumptions and gave constructive feedback. The most constructive discussions took place at our bi-monthly meetings with our supervisors. They encouraged us to rethink and inspired us in many ways. ■



From left to right: Patrick Sowinski (Team Africast) in the recording studio with Dr. Samuel Dodoo (Podcast guest, episode 5)

AFRICAST



PROJECT GOAL

The goal of our project is to raise awareness for the cooperation between the Technical University of Munich (TUM) and the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi, Ghana.

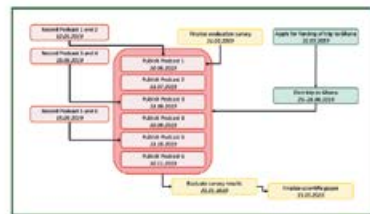
MISSION STATEMENT

With the realization of a podcast or video series we aim to contribute in strengthening the partnership between the two universities. We want to inform people about the ongoing projects in the context of the scientific collaboration as well as the multiple differences and similarities between the two continents concerning the student life.

We invite all people who are interested to listen to our informative interviews with experts and students and to learn more about what Ghana has to offer.



TIME SCHEDULE AND PROJECT STRUCTURE PLAN



RESEARCH QUESTION

To what extent does the podcast series Africast enhance the knowledge and interest with respect to the cooperation between the TUM and the KNUST among students at TUM?

POSTER 1: The first poster presented the bigger picture of the project Africast. In view of the growing involvement of TUM in various scientific projects in Africa, we decided to start a project related to this development. We realized that many TUM students are not informed about TUM's Africa initiative, but would be very interested to learn about cross-border projects, research and exchange opportunities in this context. However, TUM's involvement in Africa is extremely diverse and multifaceted and can hardly be summarized concisely without neglecting important information. To limit the range of possible topics, we decided to focus on Ghana and the collaboration between TUM and KNUST, which is of particular importance within the Africa initiative.

In a second step, an appropriate and effective medium of communication had to be defined. We agreed to choose interactive interviews in the form of podcasts, primarily for their recent rise in popularity among young adults and students. A detailed scientific reasoning for podcasts as a form of communication can be found in the scientific part of the project report.

As we are interested in the effect of our podcast series, the goal was to evaluate at the end of the project phase how the audience perceived the episodes and whether we could transfer knowledge and spark interest.

MAY 2019

MEMBERS Jaimeo Lau, Marius Merkle, Patrick Sowinski, Michael Würth
TUTORS Dominik Irber, Dr. Matthias Lehner
MENTORS Prof. Dr. Ernst W. Mayr, Dr. Veronika Däim





POSTER 2: Despite the fact that the second poster followed the first just one month later, we had a lot of new updates to share. Looking back, the summer of 2019 was the most intense phase of our project. During this time, we worked in particular on the preparation of the different podcast episodes and on the recordings with the guests. We produced the first two podcast episodes in a professional dubbing studio in May 2019. Overall, we planned to publish a set of seven podcast episodes, covering a diverse range of topics. Since we felt that a brief introduction to Ghana would enhance the effect of the consecutive episodes, we provide a general introduction about the culture and history of Ghana in the first two episodes of the series.

Planning ahead, we presented a preliminary release schedule. The intention was to publish at regular intervals so that the audience had enough time to listen to each podcast episode.

Meanwhile, we presented significant progress in our scientific evaluation methodology. After intense discussions with our mentors and supervisors, we specified how qualitative interviews help to stimulate the knowledge and interest of the listeners. We planned to interview the listeners before and after listening to a specific podcast episode and to compare the prior and posterior answers, focusing on *active interest*, *passive interest* and *factual knowledge*.

TUM



AFRICAST

END OF YEAR UPDATE

Our project consists of two stages.

1) Production and publishing of the Africast podcast

- Develop **consistent format** for all episodes
- Find **interesting guests** with specific knowledge about Ghana
- Prepare topic and questions in **pre-meeting** with guests
- Record episodes at **recording studio**
- Edit episodes and **publish** on YouTube, Soundcloud, Spotify



2) Evaluation and research

- **Marketing** for podcast episodes on different platforms
- Organize intercultural **evaluation workshop**
- Conduct qualitative interviews
- Evaluate **impact** of podcast
- Evaluate the format of the podcast
- Find **potential advantages** of Ghana-Germany cooperation
- Determine **personal interests** of students regarding this cooperation
- Compare results to other findings on Euro-African cooperation

As of December 31st 2019, we have published all seven episodes of the Africast podcast, thus **concluding the first stage** of our project. The podcast is currently available on three platforms: YouTube, Soundcloud and Spotify. We have had a variety of guests, Ghanaians and Germans, students and professionals.

The topics we covered so far are:

1. Student Life in Ghana ... *Jemima Yeboah*
2. Cultures of Ghana ... *Michael Aducciye*
3. Electronic Waste Management ... *Frank Achumpong*
4. Renewable Energy Systems ... *Dipl.-Ing. Johannes Winkelmayer*
5. Mobility and Infrastructure ... *Dr. Samuel Dodo*
6. Land Management ... *Prof. Dr. Walter T. de Vries*
7. Economy and Startups ... *Collins Agyemang*

PARTNERS

Our project depends on finding partners who can provide us with valuable information and help. This is why we met with representatives of the **Ghana Student Union** and with a delegation of **professors from the KNUST** right at the beginning of our work. Through them, we were able to build a network of contacts in Ghana and Germany.

We also enjoyed the help of the **Neue Tonfilm München**, which allowed us to record in a professional studio environment.



NEXT STEPS

In 2020 we are moving towards the **second stage** of our project. We plan to organize an **intercultural workshop day in March 2020**. The idea is to invite approximately 30 TUM students who listen to several podcast episodes before they are interviewed in a semi-standardized manner. Beside the survey, this full-day workshop will be an event, where the participants can get in touch with the culture of Ghana. We would also like to invite the Ghana Student Union as our partner in order to set up a new intercultural network. Typical food and music from Ghana will be provided. We see this as an attractive concept for both groups, German and Ghanaian students.

After the workshop, the **qualitative interviews** will be evaluated, accompanied by a **literature review**. The review will focus on three main questions:

- a) **How is Ghana's current development relevant in a global context?**
- b) **What is personal interest and how can it be measured?**
- c) **In which ways are podcasts an effective format for conveying new information?**

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Inspired by
TUM: Junge Akademie

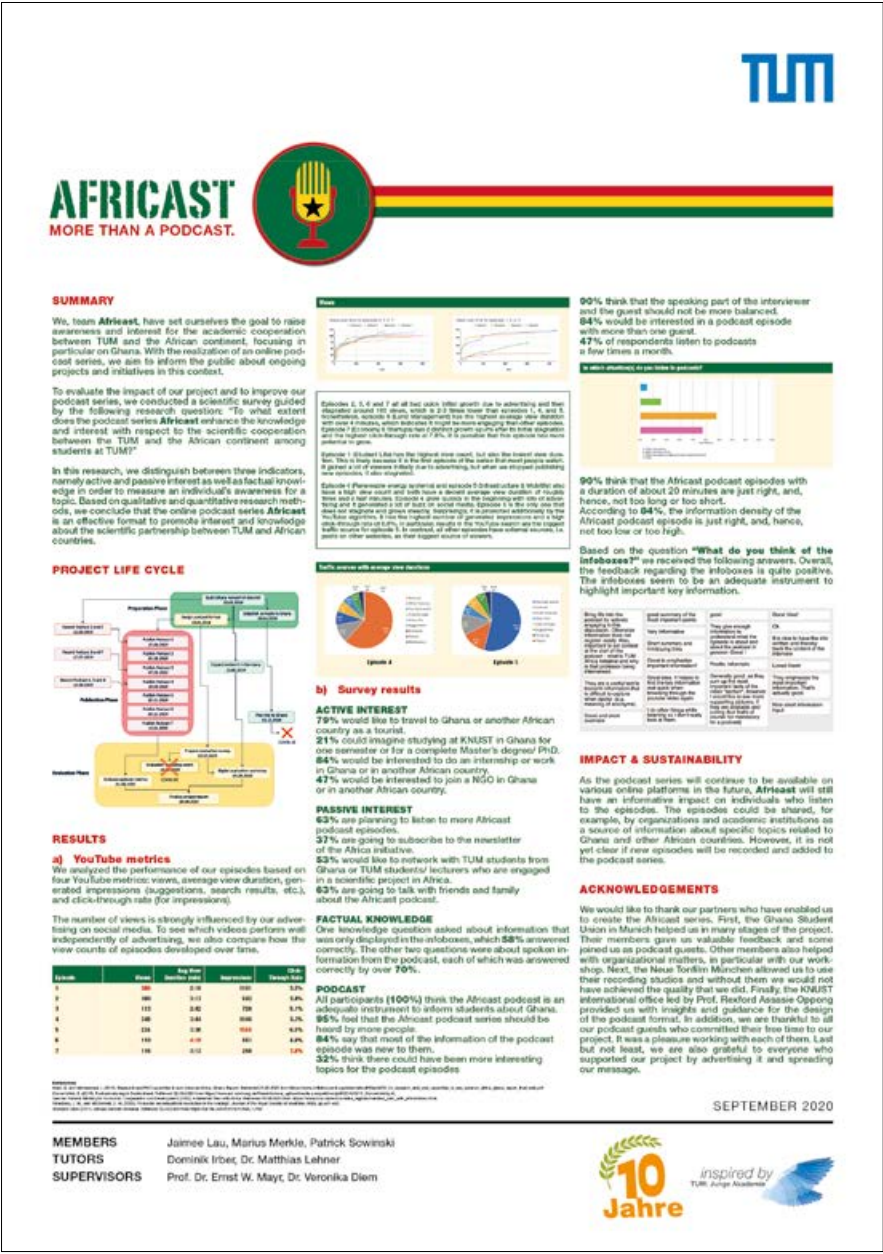


POSTER 3: In January 2020, we had finished the recording of the whole podcast series and provided an overview of the topics and the interview guests of each episode. Besides this, we updated our release schedule by adding an additional seventh podcast episode about the economy and startups in Ghana.

The podcasts series is characterized by its standard format: Each episode starts with an intro explaining who we are and what the goal of our project is, and each episode lasts about 20 minutes. To reach a large audience and inform many students from TUM about TUM's Africa Initiative, we were eager to specify a marketing strategy for all different platforms we published on, i.e. Spotify, Soundcloud and YouTube.

Given the international profile of our project, we established an international network and were in close contact with students, professors and researchers from Ghana. With the help of the *Ghana Students Union-Munich*, we recruited many of our interview guests. In March 2019, a delegation of KNUST from Ghana visited TUM and we were able to pitch our project to them and to receive constructive feedback. Finally, we would like to thank "Neue Tonfilm München" for their professional expertise with respect to the recordings. We believe that the exceptional audio quality can enhance the informative effect of the podcast significantly.

Our pre-COVID-19 plans included an in-person workshop in order to conduct the qualitative interviews for the scientific evaluation. The idea was to integrate the Ghana Students Union-Munich into this workshop in order to give the workshop participants an authentic Ghanaian experience. However, we had to cancel the workshop and decided to conduct the workshop in August 2020 as an online workshop with a smaller group of participants, who listened to one podcast episode and filled out an evaluative questionnaire. For the research phase of the project, we defined three main questions to be evaluated based on the result of the survey. ■



POSTER 4: Due to the Covid-19 pandemic, the whole scholarship period as well as the final poster were put back a couple of months. We had to adjust our research steps, in particular with respect to the workshop we had planned to do in person. Yet, with our adapted online approach we were able to analyze the impact and potential success of our podcast series in detail.

In the poster, we share key results from a variety of sources. First of all, we summarize insightful statistics from YouTube, both single numbers regarding statistics such as average view duration and impressions as well as how views evolved over time. Then, we perform a podcast-by-podcast analysis, hypothesizing potential reasons for differences between single episodes. The recordings are compared to each other in terms of the total view development over time as well as their respective traffic source, i.e. the viewer's path to the video. Secondly, we provide an overview of fundamental results of our questionnaires. Throughout different areas, be it active/passive interest, podcast as a form of communication or the use of infoboxes, we received positively engaging feedback overall. We conclude that Africast is an appropriate and effective format to promote the partnership between TUM and KNUST.

Finally, the future impact of our podcast series is briefly assessed and potential use cases for organizations and institutions are outlined. Last but not least, we thank our various partners without whom our project would not have been possible.