Teachers’ Awards - an Incentive for Pedagogical Development in Saudi Arabia

Fayiq Alghamdi, Aletta Nylén, Arnold Pears
Dept. of Information Technology
Uppsala University
Uppsala, Sweden
fayiq.alghamdi@it.uu.se

Abstract—This work-in-progress paper presents a study on how K-12 Computer Science teachers in Saudi Arabia have changed their pedagogy as a result of engaging in one year of professional development leading up to applying for a teacher’s award. The results are based on thematic analysis of fourteen interviews with teachers that have been awarded either the ‘Education Excellence Award’ or the ‘Microsoft Expert in Education’. The study focuses on how preparing for and getting the teaching award has influenced them focusing on changes in their pedagogical development and subsequent practices. The work provides an in-depth description of several aspects of the Saudi Arabian teaching culture. It explores and discusses the affordances of mechanisms used to strengthen pedagogical competence in a teacher community, paying extra attention to awards. This study identifies four main factors that motivate teachers to engage in pedagogical development in teaching Computer Science. The research suggests that awards can be an efficient motivator in establishing a culture of excellence among Computer Science teachers.

I. INTRODUCTION

Teaching and learning Computer Science (CS) in Saudi Arabia (SA) is a full-blown research area bringing together researchers to study the system and its operation. Prior research literature is in agreement that cultural aspects in teaching and learning CS in the SA differ significantly [1] from e.g., in Europe. Alghamdi et al. have studied the new Saudi teachers’ competencies standard and identified both external and internal motivations to be adopted for changing CS teachers’ pedagogical development in teaching CS [2]. Computer science research has achieved outstanding insights into teaching and learning CS in the world. However, these results are not always directly applicable in the SA context, due to the cultural differences. The first author of this work is a PhD student with a background in the Saudi Arabian education system, working with an European research group, the Uppsala Computer Education Research Group (UpCERG).

In SA, CS subjects are given in both intermediate and secondary schools. The CS curriculum for K7-9 proposes to equip students with broad information about CS topics and basic use of digital tools. The CS curriculum for K10-12 is well connected with the Computer Science Teachers Association Standard (CSTA K-12). Early 2019, the Ministry of Education announced that a digital technology subject unit is to be introduced in 50 elementary schools, with a plan to expand in the future.

The authors have investigated the CS teachers’ views of pedagogical development in teaching CS. Winning an award has been identified as a source of inspiration for teachers to strive to achieve the skills and confidence needed to acquire the required portfolio. This is not particular to a specific field, rather it is notable in several fields of human endeavor.

In this paper, we examine the impact of the teachers’ award on CS teachers who made changes in their educational pedagogy development. The goal of the study is to understand how one year of preparation for applying prizes evident in their teaching CS.

II. THE TEACHERS’ AWARD

In the field of education, Keeley et al. [3], Al-Rusan [4], Al-Mter [5], Al-Enazi [6], and Balfegah [7] highlighted the importance of the excellent teaching award to encourage teachers to engage in professional development and educational performance, and motivating schools’ workers. Several countries around the world have established their own teachers’ prizes. For instance, Taiwan has designed the teaching excellence awards. These awards are based on excellent teaching practice at schools[10]. In the US, the society for the teaching of psychology reports seven teaching excellence awards. These awards are based on excellent teaching practice and excellent culture among teachers [3]. In UK, the Varkey foundation funds the global annual teacher’s prize that is worth one million US Dollars. This amount of money would be given to a teacher who distinguishes him/herself through a contribution to the teaching profession [11].

In Saudi Arabia, the Educational Excellence Award (EEA) is a large local and national award while the Microsoft Expert in Education (MEE) is the international award integrating with the partnership of the Ministry of Education in SA. The MEE is more interactive with teachers, this is evident from the report where SA took third place in 2019 among the countries around
he/she assumes to supporting others in the coming year?. [12].

he/she influenced his/her peers and what would contribute expected to create a 2-minute video presentation to answer he/she will receive the MEE certificate. Finally, a teacher is in education, then, if the applicant continues the program unite in the MIE is Microsoft accessories in a classroom and has get the certified Microsoft Innovative Educator (MIE) first. participating online on the Education Microsoft platform and a teacher must ensure that it earns 1,000 points - attending and Microsoft exchange best exercises as they use the products comprehensive explanation of Microsoft's new tools for education, award previously engage themselves by providing a comprehensive overview of the technology is a tool that requires teachers in order to achieve excellent outcomes in students. Teachers who had won the award previously engage themselves by providing a comprehensive explanation of Microsoft’s new tools for education, and Microsoft exchange best exercises as they use the products to encourage innovation in teaching. There are three steps to be considered before a teacher could be nominated for the award. First of all, a teacher has to sign in into the Microsoft Educator Community with his/her profile completed. Second, a teacher must ensure that it earns 1,000 points - attending and participating online on the Education Microsoft platform and get the certified Microsoft Innovative Educator (MIE) first. The MIE is Microsoft accessories in a classroom and has mastered the substantial lowers of implementing technology in education, then, if the applicant continues the program unite he/she will receive the MEE certificate. Finally, a teacher is expected to create a 2-minute video presentation to answer questions on the use of technology in his/her class, how has he/she influenced his/her peers and what would contribute he/she assumes to supporting others in the coming year?. [12].

III. METHODOLOGY

The awards winners among CS teachers in SA from 2010 to 2018 were contacted through their social media accounts such as Twitter and Telegram. The first author e-mailed a cover letter and a consent form together with the interview questions to 41 CS teachers’ awardees whom considered to qualify for the study. Finally, we received completed answers from 14 participants. The questionnaire consists of two parts, one is about the background information of the participants such as biography and teaching experience, and the other consists of questions asking about the teaching practices before and after applying to the awards. The interviews were conducted in Arabic language.

Qualitative research was adopted with the aim of doing critical analysis to the data in order to understand the divergent perceptions of CS teachers’ awards on changing teachers’ pedagogical development. The interviews were conducted using individual semi-structured interviews which allow the participants to give their narrative on the teaching profession and the change they made in their practices explicitly as part of their professional development. The empirical findings and the later devised categories were extensively reviewed with the other authors. The interview data was analyzed using thematic coding to identify categories present in the data [14].

The analysis was inspired by the Reasoned Action Approach (RAA) of Fishbein et al. [15]. Also the work of Limpert [16] on self development and teacher change provided was a basis from which to analyze the data, with a focus is on the CS teachers’ professional development before and after being awarded the awards. [15].

IV. RESULTS

The results show that there are many factors influencing CS teachers to change their pedagogical practices in relation to awards. In the context of awards (EEA and MEE), CS teachers have achieved pedagogical development in their teaching practices. Essentially, in Saudi Arabia the award has become a part of growth career changer among the CS teachers. Initially, CS teacher wanted to win a laurel for himself/herself, but eventually he/she becomes a learner, striving to develop professionally, and acquire up-to-date knowledge in his/her field. The teachers have gained knowledge of new educational methods, e.g., flipped class room, self-directed learning, active learning, etc., and of how the acquired knowledge level of students have increased where they are more engaged with technology and education methods. Meanwhile, the need to implement teaching methods and report teaching practices have influenced CS teachers to apply these changes in their own teaching practices. These factors were identified through thematic coding analyses of the empirical studies which was informed by the research questions.

Subsequently, in this section the focus is on empirical studies concerning the factors that influence change in CS pedagogical practices and factors that influence application of the change.

a) Rewards: Rewards in the context of some of the participants narratives, is a factor influencing change in pedagogical development, this is done implicitly. CS teachers are interested in the award, but the competing processes of the award place CS teachers in a position of pedagogical development which is of benefit to his/her career development. CS 8 stated that ” The prize recognizes new practices aimed at developing the skills of research, thinking and creativity. This requires changing the practices of the old teacher”. CS
12 also stated that “The award was] as a motivation for more innovation and achievement, its relevance to teaching, is to link technology to education”. Essentially, it is pertinent to state here that the CS teachers interest in the award is being governed by the economic and social values of the prize. The money and the fame associated with the awards. CS 11 stated that "winning the award is a sense of pride of excellence in the field of teaching”. The participants submitted that both internal and external rewards impact their teaching practices. The CS teachers in the SA used the incentive to apply for the awards. Rewards is a means that encourages teachers to aspire more, both internal and external motivation are essential in career pedagogical development and to see the possible best in him/her. CS 12 stated that “[The participants submitted that award was] as a motivation for more innovation and achievement, its relevance to teaching, is to link technology to education”.

b) Professional Development: The participants stated that directly or indirectly competing for a prize encourages professional development. The work flow in the prize nomination towards the award requires more tasks to be learned and implemented. CS 14 stated that “Yes [the prize] improve the practices and make me focuses on innovation and creativity and achieve the learning outputs”. In the participants narratives, it was stated that self-direct learning is a way to learn the prize’s requirement which is important in professional development. CS 11 stated that “[the award] shows the use of practical experience and self-development”. Regarding the self-learning, for example, in the MEE, a candidate will make and publish a video explaining how teacher use a tool. Also in the EEA, the committee board asked applicant evidence regarding a new teaching method that he/she has applied in his/her class. This is indeed a self-learning or development towards professional development. The participants have a strong position in self-learning in order to achieve professional development. CS 4 stated that ”You can change to the best by developing yourself and participating in stronger competitions”. It is indeed important to say that award encourages self-learning and self-learning lead to professional development. This relationship could be called a linear relationship.

c) Student’s Outcomes: The participants stated that the processes of award application provides opportunity for CS teachers to have innovative and creative ideas in teaching methodology which could have positive impact on students’ outcomes. CS 1 stated that “My students are my top priorities. I seek to achieve the best to reflect this on them”. It is clear the participants focus on students’ outcomes. beside, CS 10 stated that ”We see the experiences of the teachers how they spread the information to the students”. This is to say that CS teachers transmit the new ideas and innovation they learn in the award application processes to students in their classrooms. It is also understandable that the need to impact meaningfully on students, besides the monetary value of the award, could encourages CS teachers to apply for the award. This is because the platform creates enabling environment for CS to acquire updated knowledge and modern method of teaching.

The researchers, observed that how CS teachers often refer to theories or strategies when they answer the interview questions. Some of them put students in the position of a judge while teaching CS. CS 4 stated that “I have read about many active learning strategies and implemented them with my students before, during and after I won the award”. Also CS 12 said that “The consideration of students to the teacher is different and therefore the level of female students rises and improves to match the expectations of the teacher and its efficiency is excellent”.

CS teachers recognize the change in students’ outcomes and this is a function of action they are willing to adopt as in the new strategy or continue in a certain method. All participants are agreed in this point.

d) Contributing to a Teaching Community: The fame and the pride associated with the award encourage CS teachers to apply for the award. This is because the award winners are charged with the responsibility of helping peers and hold expertise in the field of teaching computer science. CS11 stated that “The requirements now become a lot of me as I have given additional work and this require me to keep the name of “expert teacher” and continue for next years”. There are a few participants who opined that award winners should be ambassadors of the award agency or organization by spreading its objectives, mission, culture, and goals, and train those who aspire to win the prize through seminars and conferences. CS 3 stated that “... the role of the distinguished teacher and winner of the award is highlighted here as spreading the culture of the award among the teachers by giving training courses and participating in workshops to facilitate understanding of the required criteria”. This suggest that a CS teacher could make a significant contribution to teachers’ community when become an award winner. This is to say that the need to contribute to teachers’ community could encourage application for award.

In addition of the results, researchers find useful information concerning how CS teachers’ award winners apply the change in their teaching practice, the results show that the need to implement teaching method and report teaching practices have been the factors influencing CS teachers to apply change in their teaching practices.

The awards were one reason to did that as requirements, at the same time CS teachers get benefited from material to change their pedagogical development.

V. DISCUSSION

CS teachers are encouraged by both internal and external motivations to participate in the award competition. The rewards motivation is being a support from the school leaders such as principal, supervisor, college etc. Meanwhile the benefit of the award is considered to be an external factor motivating CS teachers to compete for the prize. This position is similar to what is stated in [3] and [7]. It suggests that rewards is essential to make a change and to motivate things happen. However, in spite the motivation from both internal and external sources, there are factors that make one prize more acceptable than others. For instance, the national award EEA makes it more attractive than MEE. All in all, limited number of winners (only 20 teachers yearly) and the cumbersome application processes affect CS motivation, which in
turn, reduce the number of participants. It is deemed necessary to decrease some of the requirements in the application processes of the awards to increase the number of participants, indeed the rest of teachers who were not won, they made some changes in their teaching practices and need more pay attention to share their stories. This is to say that CS teachers are motivated to apply for the award because of monetary value and encouragement from education stakeholders, but this motivation could suffer setback if bureaucratic application processes and limited number of winners are not addressed.

The professional development in pedagogy is a strong thought of the applicants as a motivator to prepare documentation and apply for the prizes. Several studies suggested that the prize improves skills and practice as in the case of [3] and [10]. It improves skills through engagement in peer learning, supervision, informal learning and educational workshop during the prizes application period. The application for the prizes offer CS teachers opportunity to gain and plan new skills and knowledge, and space to implement the new skills during and after the period of the prizes such as 21st-century skills and integrating technology in teaching. The learning during the prize application period is done in a self-directed learning that is one factor influencing the CS teachers to change the educational pedagogy. This is similar to what is mentioned in [1].

Regarding the student’s learning outcomes, this is essential in determining the results of the prizes, this is why the CS teachers targeting the students’ learning outcomes. All prizes have a clear objective of increasing or encouraging students’ learning outcomes such as [5] and [6]. Importantly, teachers’ practices should be excellently and positively improved the student’s learning outcomes. However, there is need for more experiences and projects in tackling this issue of students’ learning outcome. Essentially, the big part of the prizes application evaluation is the measurement of students’ outcomes by evidence from grades or projects. For example, teaching practices are changed constantly when it seems not appealing to students until the desired results are achieved.

The need to contribute in teachers’ community has been the driver among CS teachers to apply for prizes. It is also one of the essential criteria that the prizes look for especially in the school environment. Importantly, the [5] also opined similar narrative. CS teachers are so enthusiasm when they find themselves working as peers before, during, and after the prizes’ application period using formal and informal tools to learn how to present their practices and share among themselves. This single scenario has been a significant motivator for CS to apply for the prizes. They want to see themselves in the midst of their colleagues learning others’ experiences and offering theirs. The prizes application platform offer CS teachers opportunity to display and post their teaching practices. The winners of the prizes have a chance of transmitting the good practices in teaching CS and importantly such CS teachers would be known during the prizes ceremony. The winners of the prizes are seen as a distinguished teachers and expected to take more responsibilities in the teachers’ community such as transferring the practice that made them to win the prize.

Indeed, the two categories are concerning the question of what motivate CS to implement or apply change to their teaching practices. It is essential for the CS teachers to implement the new strategies learned in the course of the application. In fact, as part of the prizes application requirements, it is expected of the applicants to show case its classroom prowess; how are the interactions in classroom and how students respond to instructions. This is done by uploading a video or document of classroom interactions. Importantly, it is understandable that learning and implementing new skills and strategies by the CS teachers are associated to the need to compete for prizes among CS teachers. In this end, it is to say that two things are being achieved simultaneously through one effort. The CS teachers are fulfilling the criteria for the prizes and also introducing new teaching method to the classroom for excellent teaching experience. It could be adduced, firstly, that the prizes are causality to learning new teaching method and teaching such in classrooms like the new tools from the MEE. Secondly, reporting the teaching practices; the competition for educational prize offers opportunity to CS teachers to document already used specific teaching method from long time ago for prize purpose, and spread the same in the teachers’ community like the informal channel in the Telegram that gives benefit to all CS teachers. Therefore, this has equipped CS teacher award winners to have diversity in teaching methods and share the same to teachers community.

VI. CONCLUSIONS

This study investigates the pedagogical development in teaching CS among CS teachers who had previously won one of the prestigious educational prizes. The empirical study shows that four factors are responsible for changing educational pedagogy, namely rewards, professional development, student’s outcomes, and contributing to a teaching community. This is the first study on CS education among CS teachers in the SA. The researchers acknowledge that the number of participants was few and more investigation is needed. However, the result is significant and essential to the field of study. The outcomes of this study analyze the changing educational pedagogy in teaching CS in SA. This study would suggest that the SA needs to facilitate the criteria and conditions of the awards, and provide workshops and resources to explain the mechanism of the competition.

Also, the professional development centre in SA should pay more attention to informal learning spaces as proven in this study CS teachers have changed their pedagogy. In the future, the researchers will spend more time to investigate the preparation of CS teachers to teach CS in primary school in SA.

ACKNOWLEDGMENT

I would like to thank the director of CS teachers at the Ministry of Education and his team for many inspiring discussions, comments and time.

REFERENCES


