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EVALUATION OF DRUG PREVENTION PROGRAMMES AND DEVELOPMENT OF A DRUG-FREE SCHOOL FRAMEWORK

DURRAH ATHIRAH BINTI WALID

SULTAN IDRIS EDUCATION UNIVERSITY

2023

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In the name of Allah the Merciful and the Beneficent

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ABSTRAK

Tujuan kajian ini adalah untuk mengenalpasti program pendidikan pencegahan dadah di sekolah, menilai keberkesanan program pendidikan pencegahan dadah di sekolah, dan membina kerangka sekolah bebas dadah. Terdapat dua metod kajian digunakan untuk mendapatkan data dalam kajian ini. Reka bentuk yang pertama menggunakan kaedah campuran yang melibatkan pengumpulan data secara kualitatif dan kuantitatif. Reka bentuk yang kedua ialah kaedah penyelidikan reka bentuk dan pembangunan yang mempunyai tiga fasa utama termasuklah fasa analisis keperluan, fasa reka bentuk dan pembangunan, serta fasa penilaian. Responden yang dipilih dalam mengenalpasti dan menilai program pendidikan pencegahan dadah ini ialah seramai 190 orang pelajar sekolah, 40 orang guru pendidikan pencegahan dadah, kaunselor sekolah, dan pentadbir sekolah, manakala 10 orang pakar kaunseling serta pengamal telah terlibat dalam membina kerangka sekolah bebas dadah. Hasil kajian menunjukkan aktiviti yang paling banyak dijalankan di sekolah ialah pendidikan pencegahan dadah dalam kurikulum bersepadu sekolah menengah (91.3%) manakala, aktiviti yang paling kurang dijalankan ialah Program Intervensi Pelajar (15.2%). Data menunjukkan bahawa pelajar memberikan respon yang positif pada semua peringkat penilaian termasuklah tahap reaksi, hasil pembelajaran, tingkah laku, dan hasil program. Walau bagaimanapun, dari segi pelaksanaan program pendidikan pencegahan dadah, didapati cadangan penambahbaikan diperlukan untuk menjalankan pendidikan pencegahan dadah secara berkesan di sekolah. Dapatan seterusnya, adalah merupakan cadangan kerangka sekolah bebas dadah dengan menggunakan teknik fuzzy dephi yang merangkumi elemen seperti faktor berisiko yang rendah dan faktor pelindung yang tinggi, hasil pembelajaran, latihan dan sokongan, ketersediaan maklumat, program psikopendidikan berasaskan penyelidikan, membangunkan pasukan, penglibatan yang interaktif, kesesuaian dengan kumpulan yang disasarkan, mewujudkan iklim pendidikan, kerjasama sosial, memantau kemajuan dan hasil, dan akhir sekali dasar dan prosedur. Implikasi kajian dapat digunakan dalam bidang akademik dan kaunseling bagi mencegah penyalahgunaan dadah dalam kalangan murid dengan lebih berkesan.

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EVALUATION OF DRUG PREVENTION PROGRAMMES AND DEVELOPMENT OF A DRUG-FREE SCHOOL FRAMEWORK

ABSTRACT

The purpose of this study was to identify existing drug prevention education programs in schools, evaluate the effectiveness of drug prevention education programs in schools, and build a drug-free school framework. There are two research methods used to obtain data in this study. The first research design used mixed methods involving qualitative and quantitative data collection. The second design is a design and development research method that has three main phases including the needs analysis phase, the design and development phase, and the evaluation phase. The respondents selected in identifying and evaluating this drug prevention education program are a total of 190 school students, 40 drug prevention education teachers, school counselors, and school administrators, while 10 counseling experts and practitioners have been involved in building the drug-free school framework. The data shows that the most activities carried out in schools are drug education in the integrated high school curriculum (91.3%), while the least carried out activities are the Student Intervention Program (15.2%). Data showed that students responded positively at all levels of assessment, including reaction levels, learning outcomes, behaviors, and program outcomes. However, in terms of implementing drug prevention education programs, there are suggestions for improvements needed to conduct drug prevention education effectively in schools. Further findings is a proposal for the drug-free school framework by using fuzzy dephi techniques that include elements such as low-risk aspects and high protective factors, learning outcomes, training, and support, information availability, research-based psycho-educational programs, team development, interactive engagement, group appropriateness, suitability to targeted student group, realizing a climate of education, social collaboration, monitoring progress and outcomes, and finally policies and procedures. The implications of the study can be used in the field of academics and counseling to prevent drug abuse among students more effectively.

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LIST OF ABBREVIATIONS

AADK	*Agensi Anti-Dadah Kebangsaan*
AAS	Anabolic-Androgenic Steroid
ACMD	Advisory Council on the Misuse of Drugs
AOD	Alcohol and Other Drugs
ASTD	American Society for Training and Development
CSI	College of Southern Idaho
DARE	Drug Abuse Resistance Program
DAAPP	Drug and Alcohol Abuse Prevention Programs
DFSCA	Drug-Free Schools and Communities Act
DDR	Design and Development Research
EDPQS	European Drug Prevention Quality Standards
EMSDDA	European Monitoring Centre for Drugs and Drug Addiction
EU-DAP	European Drug Addiction Prevention trial
FDM	Fuzzy Delphi Method
INTIM	*Kem Kecemerlangan Intelek Murid*
KPM	*Kementerian Pendidikan Malaysia*
LST	Life Skills Training
MOE	Ministry of Education
MRDT	Mandatory Random Drug Testing
MYTRI	Mobilizing Youth for Tobacco Related Initiatives
NADA	National Anti-Drug Agency

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NHMRC	National Health and Medical Research Council
P.A.T.H.S	Adolescent Training through Holistic Social Program
PEMADAM	*Persatuan Mencegah Dadah Malaysia*
PINTAR	*Program Intelek Asuhan Rohani*
PIBG	*Persatuan Ibu Bapa dan Guru*
PPDA	*Pendidikan Pencegahan Dadah*
PPD	*Pejabat Pendidikan Daerah*
PROGRESS	*Program Gerak Sedar Bersepadu*
PROSIDAR	*Program Sifar Dadah Sekolah Rendah*
PYD	Positive Youth Development
RMP	Royal Malaysia Police
RY	Reconnecting Youth
SAMHSA	Substance Abuse and Mental Health Services Administration
SBF	Salaam Bombay Foundation
SEJADAH	*Seni Jauhi Dadah*
SHIELDS	*Sayangi Hidup Elak Derita Selamanya*
SLAD	*Anti-Drug Badge scheme*
SPADA	*Siswazah Dalam Penyalahgunaan Dadah*
SPF	Strategic Prevention Framework (SPF)
SPSS	Statistical Package for Social Sciences
SUIP	*Modul Sahsiah Unggul Insan*
TGDV	Too Good for Drugs and Violence
TND	Project Towards No Drug Abuse
UNODC	International Standards on Drug Use Prevention
USA	United States of America

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CHAPTER 1

INTRODUCTION

1.1 Introduction

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Education plays a counterbalancing role in shaping the normative culture of safety, decision-making, and moderation. Therefore, drug abuse prevention is also part of important education for young people that help to reduce the unfavourable social, health, and economic consequences of drugs by minimizing the hazards of drug abuse for both the individual and the community (Victoria State Government, 2019). Statistics from the National Anti-Drug Agency (NADA) manifested an increase in an adolescent who is in the age range 13 to 18 years involved in drug abuse (A. S. Ishak, Hussin H., Alia Asrani Azmi, & M. H. Othman, 2018). The increasing number of drug addicts among adolescents manifested a sign that it is necessary to re-evaluate the effectiveness of drug prevention programs conducted. In establishing the sustainability of school-based drug prevention education programs, prevention strategies are essential to addressing drug problems among students. Preventive programs should be built based

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on research (Pereira & Sanchez, 2020). An education model based on a preventative strategy will be built to enable social support to stay sustainable to prevent drug abuse. Thus, this study aims to identify existing drug prevention education programs, evaluate the effectiveness of existing drug prevention education programs in schools, and develop a drug-free school framework for a drug prevention strategy.

1.2 Background of Study

Drug users are among lower socio-economic strata, often associated with crime to satisfy their habit. However, recent research suggests that drug users come from many different backgrounds, such as civil servants, white-collar workers, college students, professional workers, and adolescents all represented in significant numbers, which is somehow as a gate for them to release stress or maintain finishing work schedules (Qiu Ting Chie, Cai Lian Tam, Bonn, G., Chee Piau Wong, Hoang Minh Dang, & Khairuddin, R., 2015).

Drug education has always become one of the vital responsibilities in the field of school guidance and counselling. As stated in the circular letter published by the Ministry of Education (MOE) Malaysia on 11 July 1996, the task of a school counsellor is to plan, implement, regulate, and evaluate the drug, cigarette, and alcohol prevention programs and activities. Besides, the school counsellor is also responsible for planning, implementing, regulating, and evaluating consultancy and referral services programs related to guidance and counselling, career, and drug prevention education. According to Mohamed Sharif, Roslee, and Sulaiman Shakib

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(2003), the target participants of counselling are suitable to be used in all levels, including communication, motivation, drugs, social, love, and others.

There are lots of initiatives on drug prevention education. For instance, the SMART contract-signing strategy was used among Swedish adolescents in reducing the growth of substance use and problem behaviors. SMART was founded in 2001 and aims to delay the onset of tobacco, alcohol, and illegal drug use among school students through positive reinforcement and the signing of contracts. SMART used the concept of volunteer and consciously helped the participants to make a brilliant choice in avoiding drug misuse. The program in general targets 10–16 years old in compulsory school, decisions on what school grades to target can differ. Another prevention program is the Positive Youth Development (PYD) substance prevention program which is viewed as a holistic process that helps to empower and prepare youth to be socially, morally, emotionally, cognitively, and physically competent to manage the challenges of adolescence and adulthood in the United States (US) (Wade-Mdivanian, R., Anderson-Butcher, D., Newman, T. J., Smock, D. E. R. J., & Christie, S., 2016). Research has demonstrated that a PYD approach to programming is associated with outcomes such as increased emotional regulation, initiative, and teamwork, as well as a decreased school dropout and substance abuse (Wade-Mdivanian et al., 2016). Another prevention program is Life Skills Training (LST) drug prevention program. LST program is a school-based, universal program designed to prevent alcohol, tobacco, and other illicit drugs among high school students. The program was held for three years and focused on three skills. The skills include self-management skills such as coping with anxiety and decision-making, social skills such as assertiveness and communication, and lastly, acquiring

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information relating to drug use, such as consequences of drug use and drug resistance skills (Mihalic, S. F., Fagan, A. A., & Argamaso, S., 2006). In Malaysia, drug prevention programs are vary based on the level of students in the learning institutions. For instance, the program for primary school students is *Program Intelek Asuhan Rohani* (PINTAR), which focuses on spreading awareness among those identified as at risk in drug abuse, while *Sayangi Hidup Elak Derita Selamanya* (SHIELDS) is for secondary school students aims to increase awareness of drug abuse. Besides, the program provided for students in higher education institutes is Tomorrow's Leader, which aims to give awareness and encourage them to take responsibility for the prevention. There are differences in drug prevention programs conducted between the abroad programs and existing programs in Malaysia. It can be concluded that the abroad programs emphasized the participation of their students and encouraged holistic development among adolescents. However, in Malaysia, the giving information concept is the culture that has been used in conducting drug prevention programs.

The effectiveness of the prevention programs is based on the evaluation. Mandatory Random Drug Testing (MRDT) implemented in the United States, the program's effect appeared to be limited to those students. They were subject to testing (Romer, 2016), while for the Drug Abuse Resistance Program (DARE), the program lacked key elements needed for success. According to Lilienfeld & Arkowitz (2014), as cited in Meadows (2016), these key elements included program longevity, needed interpersonal skills, and minimal social interaction with students. While for universal classroom-based drug prevention in the US, this approach is time constraints. The providers lack external support and confidence, difficult to fit the drug prevention

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content for the facilitator, and the program is overloaded with drug facts (Rigga & Menendez, 2018). PYD's approach to youth substance prevention programming might need to plan about how impacts can continue after the participation in the program. Besides, the program's efficacy could fluctuate depending on the cultural background of the participants (Wade-Mdivanian et al., 2016). A study conducted by Ekholm (2019) on Sport as Vehicle of Crime and Drug Prevention and Social Inclusion Objectives indicates that the limitation of sports as a way to prevent drug abuse can be concluded as there is no inherent or essential core of sport that both genders can engage and commit.

Regarding the framework of the drug prevention program, the Substance Abuse and Mental Health Services Administration (SAMHSA) which is based in the US, has developed a strategic prevention framework (SPF). The development of the framework is to facilitate the understanding of behavioral health problems within their complex environmental contexts; only then can communities establish and implement effective plans to address substance misuse. However, this prevention framework offers prevention planners to address substance misuse facing their states and community (SAMHSA, 2019). Besides, the social and emotional learning competencies included are skills, attitudes, and values essential to the social and emotional development of young people. The purpose of the framework is to identify program features critical to the effective enhancement of these competencies, promoting mental health, and reducing risk behavior in children and youth. Furthermore, this framework is a resource for developing more integrated and comprehensive school-based programs (Payton, J. W., Wardlaw, D. M., Graczyk, P. A., Bloodworth, M. R., Tompsett, C. J., & Weissberg, R. P., 2000). The development

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of the framework clearly helps in giving the main ideas on how a project or a program will be conducted. Furthermore, the framework is also essential in providing a guideline to ensure that it is in lined with the ideas brought by the developers.

1.3 Problem Statement

According to reports and data, prevention programs have been initiated by various parties, especially by the NADA and the MOE. According to NADA (2016), PINTAR, SHIELDS, and Tomorrow's Leader are programs that held in schools is to prevent drug abuse among students. At the same time, the MOE provides 5 Minutes Anti-Drug program, *Program Sifar Dadah Sekolah Rendah* (PROSIDAR), Drug Prevention Education Program, Anti-Drug Badge scheme and *Seni Jauhi Dadah* (SEJADAH) program. Based on previous research evaluating the effectiveness of drug prevention programs, there are some recommendations and limitations for the existing drug prevention program. Monitoring and evaluation of prevention programs should be carried out consistently so that problems and strategies can be detected immediately. The program is implemented at a moderate level in schools due to the lack of training, guideline, and module provided to the school. Besides, the inaccuracy of focusing the target group for drug prevention programs is also a factor that needs to be concerned by all parties (Chan Yuen Fook, Abdul Halim Mohd Hussin, Gurham Kaur Sidhu, Nazeera Ahmed Bazari, & Rozilah Abdul Aziz, 2009). According to the study on Teachers' Perspective on Challenges of Substance Abuse Prevention among Malaysian Secondary School Students conducted by Chan Yuen Fook, Gurnam K. S., Mohd Zaiham Abd Hamid, Lim, P. C., and Wee E. H. (2015), teachers in schools were mostly

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burdened with too much paperwork, which resulted in the non-participation of teachers in organizing activities that could help prevent substance abuse among the students. Besides, teachers' manpower is not enough. Hence, it is difficult to arrange numerous drug prevention education programs in the school (Chan Yuen Fook et al., 2015). For SHIELDS, Rozmi Ismail, Noh Amit, Norhayati Ibrahim, Mohd Ajib Abdul Razak, Mohd Nasir Selamat, Noordeyana Tambi, Nor Azri Ahmad and Nurul Shafini Shafurdin (2019) suggested that modules that are more flexible and suitable should be provided but still in line with the original objectives of the camp implementation. The limitations discussed show that there are improvements to a drug prevention program that can be done throughout this research.

Other than that, there is an increasing number of drug cases among youth (13 to 39 years old), from 18,417 cases in 2018 to 18,986 cases in 2019 (NADA, 2020). The increasing number of cases among adolescents showed that the drug prevention programs in school need to be evaluated in their effectiveness. The drug prevention programs conducted are ineffective because they are automatically, seasonally, and not focused on groups of students at risk and users without the full involvement of parents, families, and society (Chan Yuen Fook et al., 2009). The implementer of drug prevention programs also lacks material, financial and professional support. Moreover, Mohd Muzafar Shah (2007) stated that the involvement of an individual with drug abuse has links with various factors or multi-factorial. The latest theory in drug etiology also explained the involvement of individuals with drug abuse having links with risk factors that are more dominant than protective factors. This means that more risk elements and protective elements on a low person leads to a higher risk of being involved with drug abuse. Therefore, drug prevention programs ought

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to increase the protective factors and lower the risk factors of drug abuse. Furthermore, none of the research was found to evaluate the effectiveness of drug prevention programs in Malaysia in terms of reaction, learning, behavior, and results of the program.

There is a lack of implementation of specific modules, frameworks, or guidelines to empower drug-free schools in Malaysia. In the US, drug-free school and campus regulations have been developed by the Drug-Free Schools and Communities Act of 1989 (DFSCA), Reinhardt University. It is known as policies and implemented a diverse cross-section of programs focusing on drug and alcohol abuse prevention for students and employees. The Drug and Alcohol Abuse Prevention Programs (DAAPP) include passive, active, and responsive educational interventions with a scope from broad segments of the community to the individual. The law also requires post-secondary schools to prepare a written review of their program every two years to determine its effectiveness and ensure that the school's sanctions are being consistently enforced (Reinhardt University Drug-Free Schools and Campuses Regulations, 2015). However, based on the implementation of drug prevention education provided by MOE Malaysia, most of the programs are conducted by teachers only by referring to the manual on the website. Besides, the teachers only received the manual of program implementation, not the framework of drug-free school environment implementation. The position of drug prevention education teachers also has been provided among subject teachers who lack training in the drug prevention education field. The teachers also complained that there are no specific modules from the MOE for drug prevention education. The problems in the implementation of drug prevention programs discussed may affect the

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effectiveness of programs. According to Mohd Muzafar Shah, Md Azman, Mohammad Aziz Shah, Che Anuar, Mohammad Isa, Mohd Farid, & Azad Athahiri (2017), many studies on drug prevention programs only focus on the what and why but too little about overcoming the problem. Therefore, this study extends to developing a drug-free school framework which may be beneficial to develop an improved drug prevention program. Prevention programs need to have a suitable framework so a drug-free school environment can be developed to solve drug issues effectively.

For the summary, identifying the needs and challenges for school counselors that help in providing the drug-free school framework may be the practical implication for the guidance and counseling field in Malaysia. Besides, this study is desirable to be conducted for the MOE to obtain valid and current data based on the community's perspective of the school on their idea of a drug-free school environment prevention strategy. This is in line with the government's strategy to realize the people's expectations of rising to fight drug abuse.

1.4 Objectives of Study

This section will discuss the objectives related to this study. The discussion on the objectives of the study is discussed in two parts, namely general objective and specific objectives. These general objective and specific objectives will then be used as the basis for the study on drug prevention education by the researcher.

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1.4.1 General objective

Generally, this study is been conducted to discover the phenomenon of existing drug prevention education program that has been implemented in school.

1.4.2 Specific objectives

1. To analyze existing drug prevention education programs in school.
2. To evaluate the effectiveness of existing drug prevention education programs in school.
3. To develop a drug-free school framework to implement a drug prevention education program.

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1.5 Research Question

1. What are drug prevention education programs that have been conducted in school?
2. What extends is the effectiveness of existing drug prevention education programs in school?
3. What is the drug-free school framework implementing a drug prevention education program?

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1.6 Theoretical framework of research

1.6.1 Kirkpatrick Evaluation Model

The Kirkpatrick evaluation model was developed by Donald Kirkpatrick (Kazaz & Alagözlü, 2020). Donald Kirkpatrick was a Professor Emeritus at the University of Wisconsin in the US and a past president of the American Society for Training and Development (ASTD). This model is highly adaptive and adds up to the traditional training models. The results of using the model are positive both for teachers and learners. These four levels include reaction, learning, behaviour, and results.

Evaluation is needed to ensure that the program is successfully achieving the objective. Kirkpatrick stated in National Weather Service Training Center in 2007 that evaluation is the process of data collecting systematically (Fildzah Ikramina & Aurik Gustomo, 2014). This evaluation has to be arranged in conjunction with the training plan, based on the planning of objectives the company needs to get. The evaluation is implied to get data approximately from the program results. Preparing assessment afterwards will result in feedback, learning outcomes of the participants, learning comes by the members, behavioral changes of the members within the working environment, and the result (Kirkpatrick, 1998, as cited in Fildzah Ikramina & Aurik Gustomo, 2014).

The model of Kirkpatrick expressed by Donald Kirkpatrick (1998) has four levels, which are reaction, learning, behavior, and results. Donald Kirkpatrick defined the four levels of evaluation, and each level presents an order of steps to

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assess educational programs (Meghe, Bhise, & Muley, 2013). For example, reaction level evaluates the approach of the students towards the program, learning level evaluate the information accomplished by participants in the program, behaviour level measures how appropriate the information is put into utilization by participants, and the results level measures how after an appropriate term within the program's broader setting (Alturki & Aldraiweesh, 2014, as cited in Ömer Gökhan, 2015).

Reaction level measures how the participants responded to the program. It is critical to measure response since it may offer assistance to get how well the participants got the program. It also makes a difference to progress the program for future participants, including recognizing vital areas or points missing from the program. Some tools and strategy examples are feedback forms based on the subjective individual response, which can be noted and analyzed, post-training overviews or surveys, online assessment or grading by participants (Fildzah Ikramina & Aurik Gustomo, 2014).

Learning level measures what the participants have learned. When arranging the program, it is normally begun with a list of the particular learning goals, which can be the beginning point of the measurement. It is vital to measure this level since knowing what the participants are learning and what they are not will help to make strides in future programs. Tools and strategy examples, including typical assessments before and after the program, interview, or observation, can be utilized before and after although this is often time-consuming and can be conflicting, measurement and examination are conceivable and simple on a group scale, reliable,

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clear scoring, and measurements ought to be set up (Fildzah Ikramina, & Aurik Gustomo, 2014).

The behavior level will assess to what extent the participants have changed their behavior. However, it is critical to realize that behaviour can only alter if conditions are favourable. Thus, this stage is best measured after the two levels above are done. In any case, it is fair that if the behaviour has not changed, it does not mean that the participants have not learned anything. Some tools and strategy examples are multi-rater (a 360-degree assessment) is a valuable strategy and require not to be utilized before the program since respondents can make a judgement as to change after the program, and this may be analyzed for groups of respondents, perception and meet additional time is required to evaluate change, the relevance of change, and supportability of change. Assessments ought to be inconspicuous and continuous, and after that exchanged to an appropriate examination apparatus, online and electronic evaluations are more troublesome to incorporate for this level (Fildzah Ikramina & Aurik Gustomo, 2014).

The results level will analyze the ultimate results of the program. The Kirkpatrick model is chosen for this research due to its purpose to evaluate the effectiveness of the program based on the reaction of participants, learning outcome, the behaviour of participants after the program, and results of the program. The researcher personally contacted one of the experts in Kirkpatrick, who stated that the Kirkpatrick model fits well to be implemented in counselling programs. The Kirkpatrick evaluation model might supply a few profitable pieces of information on the effectiveness of drug prevention education programs. Furthermore, Frye and

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Hemmer (2012, as cited in Ömer Gökhan, 2015) refer that the comprehensibility of the concentration on program outcomes about the results of programs is beyond essential student happiness. Thus, the Kirkpatrick evaluation model is one of the methods to evaluate the reaction of the participants. Several research in Asia used the Kirkpatrick evaluation model to identify a proper way to evaluate the training given for the employee and identify the training evaluation method, which shows a valuable productivity result to the company in terms of behavioral (Fildzah & Aurik, 2014). The other research aims to assess the reaction of teachers involved in the school-based assessment in-service teacher training program run by the MOE Malaysia for primary school teachers and its influence towards learning specifically in knowledge, skills and attitudes also implemented Kirkpatrick evaluation model (Mohd Azmi et al., 2016). The implementation of the Kirkpatrick model in the Asian context shows that this model is suitable to be implemented in our local context.

1.6.2 Design and Development Research Model (DDR)

The design and development research is proposed by Brown and Collins in the 1990s is currently among the well-known methods in educational research (Muhammad Sabri, Nor Aziah, Zawawi, & Nurulhuda, 2012). The method is also known as developmental research, design-based research, design research, formative research, and design-cased and possesses conceptual underpinning and practical aspects of the 'what' and 'how' of 'doing.' Design and Development Research (DDR) focuses on the need to conduct research to establish the foundations for models used to plan and implement instruction.

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According to Klein (2014), DDR aims to establish an empirical basis for the creation of instructional and non-instructional products and tools and new or enhanced models that govern their development. Besides, the employment of DDR methodology as the selected approach is justified in this study by its pragmatism in testing the theory and validating the practicality. Other than that, it is also described as a way to establish new procedures, techniques, and tools based on specific needs analysis (Muhammad Sabri et al., 2012). The design and development model developed by Richey & Klein (2007) includes three main phases in the model development process: Phase I: Needs Analysis, Phase II: Design and Development, and Phase III: Testing and Evaluation. Different phases demand different methods in the collection of data. The best way to establish the reliability and validity of the methods employed is to follow accepted processes and use established tools as they were designed to be used.

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This approach is used in this study due to its purpose basically to develop artifacts which also known as new theories, new frameworks, new design and development models, new methods, and also previously untested application of tools, models, or methods to a problem in a new context (Ellis & Levy, 2010). The DDR model is also employed to design and develop an intervention such as programs, teaching-learning strategies and materials, products, and systems to solve a complex educational problem and advance our knowledge on the characteristics of these interventions and the processes to design and develop them. According to (Ellis & Levy, 2010). The development of tool-using the DDR model has also been implemented in previous research in Malaysia aims to present the current progress of this research in the development of a validated framework and employing DDR

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approaches in the design and development of online Arabic vocabulary learning games prototype (Muhammad Sabri et al., 2012). Therefore, this model also fits well to be implemented for this research to help answer the research question.

1.6.3 Social-ecological Model

The social-ecological model was developed by a psychologist, Urie Bronfenbrenner (29 April 1917 – 25 September 2005), in 1979, and later many organizations and scholars utilized it in various fields (Kohno, A., Musa, G., Nik Farid, N. D., Abdul Aziz, N., Nakayama, T., & Dahlui, M., 2016). He developed this way of working as a way to examine the social influences on children's lives and development and the varying ways these affect them.

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The social-ecological model is a theory-based framework that identifies the dynamic interrelation of an individual's health and well-being with their greater social, environmental, and cultural context. There are five levels in the social-ecological model that describes the interplay between multiple spheres of influence, including individual, interpersonal and social, community, society, and global. Some themes can be related to the individual level, socio-economic status, religious principles, cultural beliefs, and psycho-social well-being. Note that interpersonal factors included family values, psycho-social effects on family members, marriage prospects, and counselling. Plus, institutional or organizational factors were included in the service provision and affordability, guidelines, as well as psycho-social support. Besides, at the community level, including the social stigma of individuals

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and families and cultural beliefs and practices. Factors at the public policy level include training and guidelines (Zhong et al., 2018). The social-ecological model was originally developed as a framework for understanding health promotion activities. The social-ecological model has since been used to explore a range of ecological theories to public health structures. Identifying a range of factors that impact and maintain health behaviour provides multiple points for intervention while making visible the complexities and the subsequent requirement (Ladak et al., 2020).

Using the social-ecological model in this study revealed how future recommendations for policy and practice can maximize the potential for service improvement by targeting multiple levels of influence. The model was developed by Bronfenbrenner, and later many organizations and scholars utilized it in various fields such as violence prevention, suicide prevention, cancer treatment, and others (Kohno et al., 2016). As this research emphasizes prevention fields, this is the best model to be referred to about prevention.

1.7 Conceptual framework

The conceptual framework for the research is mainly built on the basis of evaluating the prevention program in terms of the implementation, and the Kirkpatrick model explored the reaction, learning, behavior, and the results of the program. Furthermore, the input, process, and output of the evaluation for the program effectiveness are combined in the framework. As pointed out above, this study identifies the existing drug prevention program and then evaluates the effectiveness of the program.

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According to Kirkpatrick, evaluation is defined as determining the effectiveness of a training programme (Vizeshfara et al., 2017).

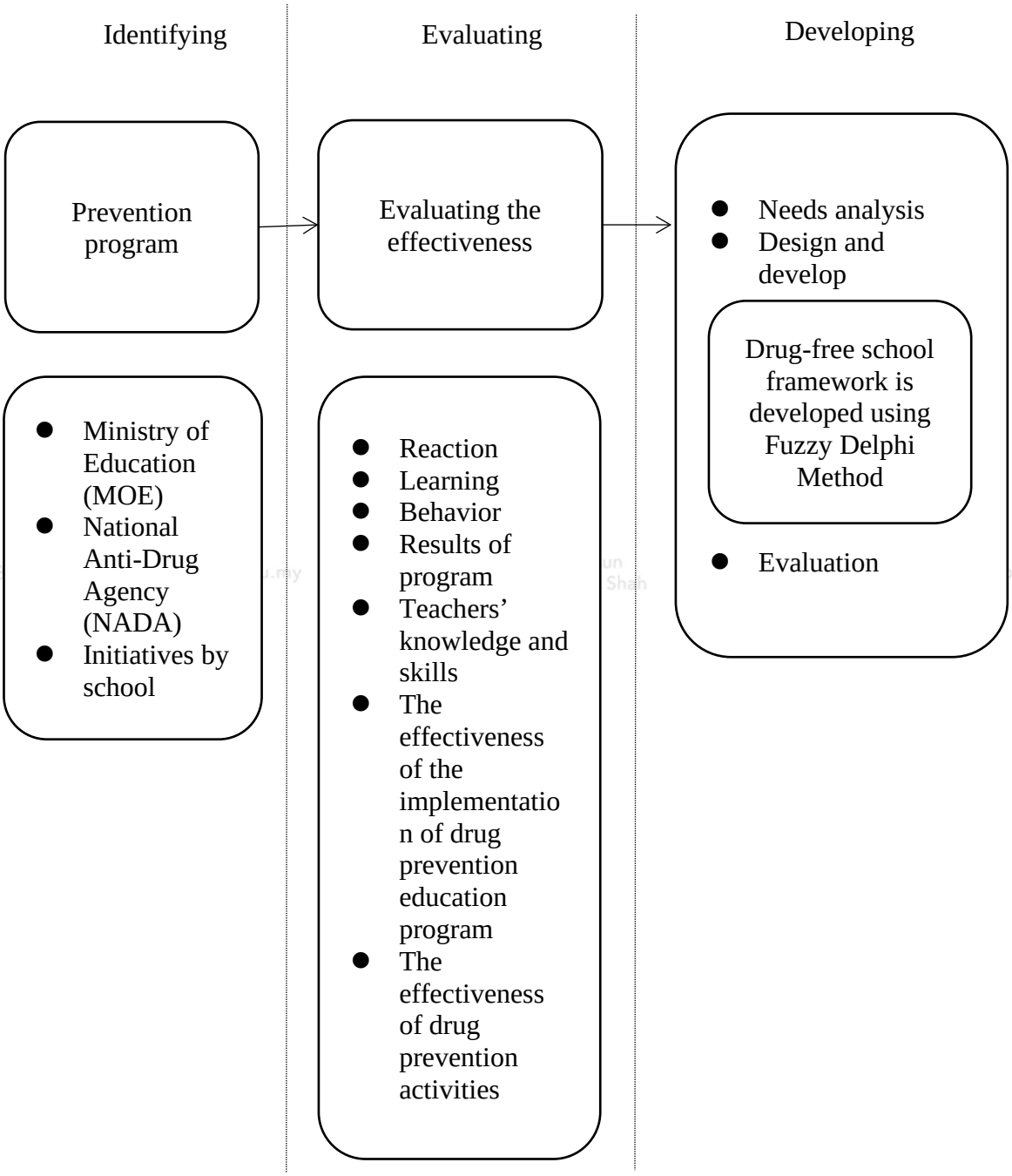

Figure 1.1. Conceptual framework of Evaluating the Effectiveness of Drug Prevention Program

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The prevention program provided by the NADA, MOE, and the initiatives by the school will be evaluated based on its implementation of the program, reaction, learning, behavior, and results of the program by participants. Broadly stated, if the program design and program implementation has been planned along with the four levels, it is easy to see how the program can benefit the participants (Anna Langheiter, 2019). Kirkpatrick's model is one of the best-known models for evaluating the effectiveness of training and program. This model provides a comprehensive, simple and practical approach for use in many training situations and is known as a benchmark in the field (Vizeshfara et al., 2017).

1.8 Research definition

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1.8.1 Conceptual definition

Evaluating

Evaluation is based on the results from the program, including the achievement of goals from the program and the extended program to give a positive impact to an individual (Kirkpatrick, 1959). Results are presented in the form of a Return on Expectations (ROE). The ROE demonstrates to participants the program's value by clarifying expectations of the training and, later, by measuring the extent to which they have been met (Langheiter, 2019).

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According to Davidson (2004), evaluation aims for two reasons which are to generate an assessment of overall quality and to find areas for improvement. The assessment is usually for decision-making purposes or reporting.

Prevention program

According to the Drug Policy Research Center (2002), the purpose of prevention programs is to prevent, or at minimum reduce, adolescent use of anything that harms, such as the variety of substances including alcohol, drugs, and tobacco.

Developing

Generally, developing means the process of change or an event represents a new platform in a changing state. Therefore, developing is completely constituted as something desirable or positive (Bellu, 2011). Developing also can be defined as improvements.

Drug-free school

A drug-free school can be measured by assessing three aspects, including the number of students, faculty, and staff attending self-help or other counselling groups that address drug abuse, students' and employees' attitudes and perceptions of the drug problem on campus, and lastly, use levels of drugs by students and employees (Complying with the Drug-Free Schools and Campuses Regulations, 1997/2006).

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A drug-free school also is where the students, faculty and staff members, and parents will accept that their school does not tolerate cigarettes, tobacco, or alcohol (Mallory, 1994).

Framework

The framework extends current guidance on intervention development by providing instructions for co-producing and prototyping an intervention's content and delivery processes. In addition, the framework helps to guide co-production with stakeholders, so that intervention content is tailored to the population and setting to address implementation issues at the design stage (Hawkins et al., 2017).

1.8.2 Operational definition

Evaluating

Evaluating in this research is accessing the effectiveness of existing drug prevention programs in terms of identifying the reaction of participants towards the program, measuring what participants have learned, to what extent participants apply their skills after joining the program, and analysing the results of the program. The other aspects that have been evaluated is the teachers' knowledge and skills, the effectiveness of the implementation of drug prevention education program, and the effectiveness of drug prevention activities.

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Prevention program

The prevention program in this research is any activities that are comprehensive, strategies, and initiatives intended to minimize and limit the harm of drug abuse risk. The prevention program is conducted in four aspects including management and leadership, curriculum, co-curriculum, and character development.

Developing

Developing in this research is developing a framework of drug prevention program which can help in establishing a model and also policy for the drug-free school. The framework is a kind of conceptual structure intended to guide or support the building of a drug-free school model.

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Drug-free school

Drug-free school in this research is the staff, students, and people schools do not involve in any drug-related issues and are well disciplined with drug-free policies in the area.

Framework

The framework is used to guide the adaptation of the drug prevention interventions. In addition, the framework acts as a basic idea provided to help in designing drug-free school modules or any drug intervention programs at school. The framework is the improvements from existing materials provided in preventing drug abuse but in the form of organize and research-based guidelines.

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1.9 Limitation of Study

The limitation of this study can be pointed to three aspects:

1.9.1 Methodology

This study involved mixed methods in accessing statistical data. The inequality of results between the two methods may lead to unequal evidence within the study. Mixed methods is a time-consuming and complex process as it requires analyzing, coding, and integrating data. The instruments for this research are also limited and need to be adopted and imply the validation process by experts. This study involved the collection of data using a checklist form, questionnaire, and semi-structured interview. All of the instruments are not valid in one set but need to be compiled by the researcher.

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1.9.2 Generalization

The results of this study may not be completely generalized. The sample was restricted only to four districts in Kelantan state, Malaysia only. The results or data from this state may not be suitable for generalization to other places. This study also did not examine the impact of drug prevention on the performance of the school. This study only focused on evaluating the effectiveness of drug prevention programs and developing the framework of the prevention program.

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1.9.3 Scope of the study

The environmental factors of drug abuse among students are not focused that will be taken in this study. However, this study only aims to assess the drug prevention program in school whether it has been implemented effectively or not. Thus, the respondents involved are those among students, drug prevention education teachers, and school counselors.

1.9.4 Resources

The time constraints for the researcher to complete this study acquires the researcher to choose only some areas for the data collection process. Thus, only a state is chosen for this study. Therefore, the development of the framework also needs to be simpler but achieve the objective and the needs of the study.

1.10 Importance of research

This research will contribute to the area of study in four aspects:

1.10.1 Policy aspect

The contribution of this study is to create an integrated module in relation to drug prevention education as a prevention program in creating a zero-drug environment in schools. This study can produce policy guidelines for a drug-free school environment

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prevention strategy. This module and guidelines can be used by the MOE to be implemented by all parties in preventing drug abuse.

This module and guidelines also will be beneficial in encouraging the parties among parents and students to be part of developing a drug-free school environment. A safe environment will be gained by the school if the drug-free school implements in the future.

1.10.2 Methodology aspect

This study used a mixed-methods design, which contributed to more comprehensive results of the study. The qualitative data will support the quantitative data in accessing the effectiveness of the existing drug prevention program.

1.10.3 Practical aspect

The data will be shared by relevant ministries such as the Ministry of Health (MOH), the MOE, NADA, the Ministry of Higher Education (MOHE), and the Royal Malaysia Police (RMP), as well as universities involved in the project and related agency. Ralevant agencies will continue to use the data and the intervention program to make sure it will be sustained towards the goal of creating a drug-free society.

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1.10.4 Theory aspect

The use of the Kirkpatrick evaluation model will develop a new way of accessing the effectiveness of drug prevention programs. This evaluation model has not yet been used in Malaysia in accessing the effectiveness of prevention programs. Thus, the implementation of a new model or theory in accessing the effectiveness occurs throughout this study.

1.11 Summary

In a nutshell, many initiatives have been done to prevent drug abuse among students, such as PINTAR, SHIELDS, and Tomorrow's Leader. Other programs provided by the MOE Malaysia are 5-Minutes Anti-Drug Message, PROSIDAR, Anti-Drug Badge scheme program, *Seni Jauhi Dadah* (SEJADAH) program, and Drug Prevention Education Carnival. However, regarding the evaluation of the prevention program, there are fewer studies focused on evaluating the effectiveness of existing drug prevention programs. Thus, this study aims to identify drug prevention education program, evaluate the drug prevention program, and develop a drug-free school framework in conducting the drug prevention education programs in schools.

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