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NATURALISTIC OBSERVATION WITHIN ACTION RESEARCH: PLAUSIBILITY

Thomas G. RYAN
Professor of Education, Nipissing University, North Bay, Ontario, Canada
ORCID: https://orcid.org/0000-0003-1540-4414
thomasr@nipissingu.ca

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Abstract

Naturalistic Observation and Action Research share common qualitative rudiments. This is not inflammatory nor controversial as each means of inquiry requires careful planning, application, and review to realize worthwhile personal and professional outcomes. Both research modes are largely subjective non-experimental efforts that complement other types of research and supply perspective and next steps that generate theory while verifying data. Differences are overt and so are similarities that need be illuminated to support both research and researchers who may need to disentangle each. To aid in this exercise of clarity, exemplars are included that illustrate possibilities within tertiary contexts.

Keywords: Action research, naturalistic observation, qualitative.

INTRODUCTION

Naturalistic Observation (NO) is a popular and mature mode of research utilized by seminal researchers such as Darwin, Pavlov, and Piaget. Early researchers embraced the opportunity to observe and describe what they observed via investigations. Outcomes included detailed records that captured perspective and behavior in a strategic and systematic manner (Ryan, 2020). The documented observations unfolded in the natural world and did not require, nor allowed for manipulation or control of what was observed within contexts (Bradley, 2021).

NO continues to this day as symbol of quality scientific examination that appears in empirical, qualitative, and mixed methods research. NO is direct observation by the researcher and does not require other sources of data to be valid (ecological validity) as NO is a slice of reality documented in a natural and authentic manner (Creswell & Guetterman, 2019). NO in research herein is covert and a means to observe, document and reflect upon data collected recursively. NO can be completed over a period of hours, days, weeks, or years which produces valid, copious, and rich descriptions of qualitative observations.

Piaget, a researcher of psychology believed observational research was a type of "correlational (i.e., non-experimental) research in which a researcher observes ongoing behavior.... It is a social research technique that involves the direct observation of phenomena in their natural setting" (Atlas.ti, 2018, p. 1). Bradley (2021) also claimed NO "differs from an experimental approach in that it looks to observe people in their natural environment to test or verify previous research" (p.5). An example would be the recent project completed by Mastin and Vogt (2016) who observed Mozambican infant engagement and early vocabulary development in a naturalistic manner.

NO in this review is a nonparticipant observational mode in which no intervention by a researcher is required nor planned. NO herein is the study, often of behaviors occurring naturally with no attempt to manipulate variables. NO studies of this type "require appropriate study designs, reproducible protocols,

... and adequate resources to yield valid and generalizable results" (Creswell & Guetterman, 2019, p.35). For example, in "ethological theory, a branch of behaviorism, places the strongest emphasis on naturalistic observation, biological in origin. Ethology stresses that behavior is strongly influenced by biology, which is tied to evolution and is characterized by critical or sensitive periods (Santrock et al., 2015, p. 41). While certain modes of research incorporate NO, in doing so creates tension between the research modes, in this case ethology and NO, since many believe NO is unique and not purely quantitative nor qualitative (Creswell, 2015; Lincoln & Guba, 1985), and certainly not experimental since NO requires observation in a natural setting avoiding any contact (covert) with what is observed (Bradley, 2021).

NO observational data can be graphed, imaged, sifted, sorted, and labelled via codes and numbered observations (Coplan et al., 2015). Covert NO is distinctive as it does not require ethics approval and is granted exception when it does not involve any "intervention staged by the researcher, or direct interaction with the individuals or groups; individuals or groups targeted for observation have no reasonable expectation of privacy; and any dissemination of research results does not allow identification of specific individuals" (Government of Canada, 2022, p.1). This mode of inquiry, natural, without direct "interaction with people; does not include collecting personal information that will be disseminated with visual materials; and ... there is no reasonable expectation of privacy among those being observed" (Government of Canada, 2017a, p.1). Therefore, NO is restricted to public places where people may expect to be seen and observed.

Naturalistic observations can be "used to identify the heuristics people apply as they work on real-world problems, primarily complex problems in which performance unfolds over a long period of time. Investigator observations represent one of the more frequently used observational techniques" (Mumford & Leritz, 2005, p.322). Piaget (1952) employed NO to explore instruction and constructivism to confirm and link perceptions with observations (Chen & Wang, 2021; Marcella & Howes, 2015). NO allows the researcher to observe human behavior intuitively (Goffman, 1959), with subjects unaware of the NO (covert) (Eby 2011; Lincoln & Guba, 1985).

As with any research mode there are limitations and sources of error (Creswell & Guetterman, 2019). For example, NO can include observer bias as multiple conclusions may be realized from observational data (Bradley, 2021, p.5). The inability of the observer who cannot control variables that may affect behaviour leaves the investigator in a deductive stance when revisiting NO data. Also, NO can only be in public places since researchers must respect privacy and only observe where people expect to be observed with a public place; for instance, Grady et al. (2012) used NO during preschool drop-off which unfolded in a public place.

Arthur-Banning et al. (2009) observed sport behavior and realized that positive behaviours increased positive actions in others hence they claimed there was a relationship between the sportsmanship behaviors of adults as spectators and athletes in youth basketball games. It could be however that both adults and youth knew they were being observed which may have changed the behaviour. Reactivity concerns can lead to efforts to conceal the activity of the observer and/or habituation where the observer is so frequently on-site and well known that the observed are unaffected by the observed presence. For example, a researcher at a public beach may not interact with anyone yet is able to observe all. As noted in figure one the observer must be covert and not intervene, manipulate, or participate and only observe in public places while keeping data anonymous.

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Figure 1. NO elements (Image developed by author provides rudiments required for covert NO).

NO is somewhat popular today as Chen & Wang (2021) enacted NO to observe social appearance anxiety among high school students and Ryan (2020) used NO to observe COVID 19 related behaviours. Coplan et al. (2015) observed schoolyard social participation and DiMercurio et al. (2018) observed infants and self-touch to generate theory. In each case the researchers sought to observe in a natural setting, avoiding any interference within the research contexts. Other NO researchers such as Vlachou et al. (2014) witnessed bullying among children and Amato (1989) studied caretakers of children. Clearly using covert NO the researcher must observe certain protocols, criteria, and conditions to ensure there is no contact, anonymity and ethical conditions are met (Eby, 2011).

1.0 NO within Action Research

NO and AR share common points in that neither is generalizable (Ryan, 2021), as each mode centres upon a planned and strategic singular and unique identified area of concern (Ward & Millar, 2019). AR and NO are a means used to observe, sense, and decode naturally occurring reality that yields observations and tacit knowledge which is made visible via documentation of what is perceived (Dahlberg 2012; Fyfe, 2012). AR and NO are an authentic means to open a window into experience as observations may trigger memories. In addition, AR is "concerned with developing practical knowing in the pursuit of worthwhile human purposes" (Reason & Bradbury, 2008, p. 4) whereas NO is enacted to capture everyday life to learn and explore what is observed in detail within a natural setting.

AR is habitually an iterative procedure of planned action, reflection (Zuber-Skerritt, 2018) and revision that occurs over time (Ryan, 2018). NO can also be planned action requiring reflection upon what is observed, and re-examinations are enduring as collected data provides an understanding of context (evidence) (Creswell & Guetterman, 2019). AR is purposeful, requiring multiple steps (phases) that are recursive which help to process what is experienced (Ryan, 2018) just as NO can be used to better understand our natural world via repeated valid observation, reflection, and documentation.

Both NO and A.R. help the researcher to take what seems complex and distills actions into less difficult aspects that may lead to both theory and practical clarifications (Reason & Bradbury, 2008). A.R. is

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malleable and inclusive, frequently complementing current educational settings within distinct acts, reflection, and revisionary steps. Ultimately, AR helps to "addresses a specific, practical issue and seeks to obtain solutions to a problem" (Creswell, 2012, p.577), whereas NO can be used to naturally gather evidence non-experimentally to verify theory while confirming findings of past or present.

Kemmis (2009) believes AR is a "critical and self-critical process aimed at animating these transformations through individual and collective self-transformation: transformation of our practices, transformation of the way we understand our practices, and transformation of the conditions that enable and constrain our practice" (p.463). NO can be used to learn about self by looking at others and comparing the NO data to our own daily regime and enduring beliefs (values). NO can be a means to translate the world around us in an authentic and natural manner. For example, Ryan's (2020) NO of COVID 19 related behaviours may impact the researcher in a personal and transformative manner. As humans' complete investigations there is a reaction to the research as the experiences of researchers are self-impactful and reflexive (Ryan, 2005).

2.0 Action Research

McNiff (2002) suggests,

> action researchers enquire into their own. Action research is an enquiry conducted by the self into the self. You, a practitioner, think about your own life and work, and this involves you asking yourself why you do the things that you do, and why you are the way that you are. When you produce your research report, it shows how you have carried out a systematic investigation into your own behaviour, and the reasons for that behaviour (p.5).

By looking into self and personal experience via reflection there may be no contact with others as the actions are happening within and it is only when the information is written down does the research take a physical form. Documenting self, there is transformation as the cognitive becomes visible and the information can be shared physically, revisited and these actions play a role in transforming self, understanding and perhaps even values (enduring beliefs).

Figure 2. AR phase/cycle/step (Image developed by author provides components required for AR).

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"This action research cycle can now turn into new action research cycles, as new areas of investigation emerge. It is possible to imagine a series of cycles to show the processes of developing practice" (McNiff, 2002, p.10). Therefore, AR can be multiphase and used to move forward while solving problems, locating solutions, and facilitating the processing of experience. These outcomes appear to be transformative as new information allows the researcher to take new stances, act differently and even influence what is thought and stated. AR is deliberate, systematic, and grounded commitment. The research is grounded in "the ontological 'I' of the researcher, and uses a living logic; that is, researchers organize their thinking in terms of what they are experiencing at the moment" (McNiff & Whitehead, 2006, p.42). An Action Researcher can do this individually, without contact of others and without intervention in some AR efforts (Ryan, 2005), as the research landscape is examined to better understand the sense of place.

3.0 NO and AR: Divergence

Both AR and NO include reflective cognitive efforts, actions and planning inquiry aimed at refining and cultivating understanding. Neither AR nor NO is limited to one discipline however each mode is subjective and therefore has inherent limitations. Admittedly some of the actions in AR are interventions that can be applied immediately as AR spirals during the steps (phases) of AR and it is this intervention that sets AR apart from NO. NO can eventually lead to change however, only after the study is made public and readers make the changes, or the researcher implements change following the NO study. This is so because NO must not involve any "intervention staged by the researcher" (Government of Canada, 2022, p.1). This is required for NO to remain free of required ethics approval in Canada. If a NO study is granted ethics approval, then the NO study may plan to intervene, yet it becomes something augmented away from the covert NO mode explained herein.

NO excludes "direct interaction with the individuals or groups" (Government of Canada, 2022, p.1) whereas AR regularly is participatory involving direct interaction with individuals and often groups in education (Ryan, 2021). NO and sometimes AR unfold in public where "individuals or groups targeted for observation have no reasonable expectation of privacy" (Government of Canada, 2022, p.1). AR often is undertaken by educators in public schools with permissions and ethics approval however, in covert NO the researcher can, and must observe without direct contact, for example, students at recess, on field trips, track meets, external school competitions or anywhere that is truly public, and the covert observer can be at a distance without contact or intervention.

Upon the collection of data via NO and AR any "dissemination of research results does not allow identification of specific individuals" (Government of Canada, 2022, p.1). In both modes anonymity is preserved, yet in AR where the goal is improved understanding via revisions McNiff (2002) recommends:

> when you produce your research report, it shows how you have carried out a systematic investigation into your own behaviour, and the reasons for that behaviour. The report shows the process you have gone through in order to achieve a better understanding of yourself, so that you can continue developing yourself and your work (p.5).

Conversely, in NO the researcher is observing others in public places to compare, contrast, theorize, verify certain aspects of human behaviour in the natural world (Mehu & Dunbar, 2008). NO can be completed individually or with multiple observers just as AR can be a solo effort or facilitated group project. Both modes of inquiry seem unending and natural yet in the planning phases, start and end points are detailed as well as strategic actions to lead to successful outcomes.

Both AR and NO are unreliable since replication is somewhat impossible as the observed situations are unique experienced contexts that cannot be repeated or revisited naturally. Creswell and Guetterman (2019) caution; human observation is infused with bias and error as observers are distracted internally and externally from time-to-time, and reflective accounts may be inaccurate compared to a video record that is

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less likely to miss details within contexts. Still NO and AR may be the best suited modes of observation given the situation under investigation and each mode helps to realize new problems as observation and careful reconsideration of observations is both enlightening and useful. Both modes of inquiry generate large amounts of data that can be strategically and systematically examined recursively.

4.0 NO Exemplar

What follows is a NO exemplar that was an assignment within a tertiary level course. Students were paired and instructed to carry out a NO on a topic related to the Health and Physical Education course.

Naturalistic Observation

1. What research question(s) were you trying to answer via observation and why was this question important to you?

The following research questions directed our focus for this naturalistic observation. What beverage choices do students make for lunch? Are people more likely to have a sugar-sweetened beverage (SSB) compared to water?

These questions are important because there is currently an obesity epidemic occurring in North America. Hu's (2013) research has found that a long-term intake of sugar-sweetened beverages (SSB) can lead to obesity and risk of type-two diabetes. Although this study observes beverage choices of adults, the obesity epidemic is affecting children and youth as well. Many countries are banning SSB from schools and community centres in hope to reduce obesity in children.

2. What was your research hypothesis? What was the reason underlying your hypothesis?

Will individuals choose to purchase and consume a sugar-sweetened beverage over water? Our hypothesis is that more individuals will choose to purchase and consume a sugar-sweetened beverage than water. We came to this hypothesis by considering our background research which concludes that the obesity epidemic facing our society may be at least partly attributed to accessibility, quantity (size of the sugar-sweetened beverage) and the frequency individuals ingest these SSBs. One other factor we considered while coming to our hypothesis was the fact that we were in a cafeteria where there were many options of sugar sweetened beverages. We accounted for approximately 26 different options. The cost of the SSB was comparable to the cost of a bottle of water.

3. What was the operational definition of the naturally occurring IV in your project? What operational definition did you use for the DV in your project?

The independent variable (IV) in our study is the beverage choices that are available for purchase in the cafeteria. The options that were observed included pop, juice, iced cappuccinos, energy drinks and water. We did not account for hot beverages including tea, or coffee. The dependent variable (DV) in our study was the choice of beverage each person decided to have for lunch. Therefore, the choice of beverage (DV) that each person made depended on the options available (IV).

4. How did you avoid intervening in the situation you were observing to avoid reactivity?

To avoid intervening in the situation we were observing we did not interact with any of the people in the cafeteria. Instead, we walked about the room taking notes and used visual observations. The people that we were observing had no knowledge that we were recording their beverage choices and therefore accurate data was able to be collected.

5. What specific procedures did you use for time sampling, situation sampling, and participant sampling?

We did our naturalistic observation during the lunch our purposefully so that we could observe the most amount of people at one time. The time between 12:30-1:30 pm is when the cafeteria is the busiest with both students and staff. We also chose to sample in the cafeteria rather than other areas of the school to observe the most amount of people for the purpose of our study. Although a similar number of people

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attend the cafeteria each day during the lunch hour what we observed may have had a different result if we were to observe at the beginning of the school year. At the time that we did our observational sample it was close to exams and a time where many final assignments are due. This may cause more people to buy SSB's rather than bring their own healthier beverage.

6. Describe the conclusions you would draw based on the results of your study.
Through our observation and data analysis we confirmed our hypothesis: more individuals choose SSB over water when purchasing a beverage. 68/100 observed individuals chose a SSB such as pop, juice, or an iced cappuccino. That is 68% of students choose SSB as opposed to water. Leaving 32/100 individuals (32%) choosing to purchase water over an SSB. Through background research and our own research study we have concluded that the purchase and consumption of SSB is high.

7. Identify at least 2 weaknesses (limitations) of your study. Describe what type of follow-up study would be needed to better support your hypothesis.
One limitation of our study would be that we were accounting for beverages that were purchased. We did not include people in the study who were drinking their own beverages brought from outside the cafeteria. This limits our study as more people may have had reusable water bottles in which they fill throughout the day. These people were not observed nor included in this study. Additionally, this study was conducted in a cafeteria which means this information may not be accurate of the everyday choices an individuals may make. By no means is this study conclusive of individuals everyday choices. For example, an individual may drink water at home and only have a SSB one a week and we perhaps have observed this individual on a day where they were not in routine behaviour. To confirm this according to the National Health and Nutrition Survey state that more individuals consume SSB outside the home than in.

A follow up study that would perhaps lead to better results would be a follow up by researchers in which individuals are asked to participate in a short survey. After researchers observe their beverage choice individuals may be offered a survey where they respond to a variety of questions regarding their daily beverage choices. This would be a self-reported survey.

RESULTS

The purpose of the analysis is to summarize our observations into sugar-sweetened beverages (SSB) compared to water. We categorized the beverage choices in this way because research shows that SSB are a leading cause of obesity which causes many health problems for people of all ages (Hu, 2013). We wanted to compare how many people in the cafeteria chose a SSB over the healthier option, water. When doing our observation we used a T-table to record beverage choices and recorded how many people chose that option. We capped our number of people observed at 100 and then summarized these numbers in a Table 1 and Table 2 below. We then condensed the numbers into a bar graph that demonstrates the number of people that chose a SSB compared to water in Figure

Average Reliability
Sugar-sweetened Beverages = 68/71 =96%. Water = 29/32 =91%
Overall, there was little discrepancy between the data collected from both observers.

Observation Notes
Time of Observation: 12:30-1:30
Number of People Observed: 100
Beverage Options Observed: Pop, Water, Juice, Iced cappuccinos, etc.
*Observation Notes were taken by hand but then summarized in the chart below

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Table 1. C's Observation Notes

Beverage Type	Number Observed
Pop	46
Juice	9
Iced Capps	6
Energy Drink	7
Water	32

Table 2. A's Observation Notes

Beverage Type	Number Observed
Pop	52
Juice	11
Iced Capps	2
Energy Drinks	6
Water	29

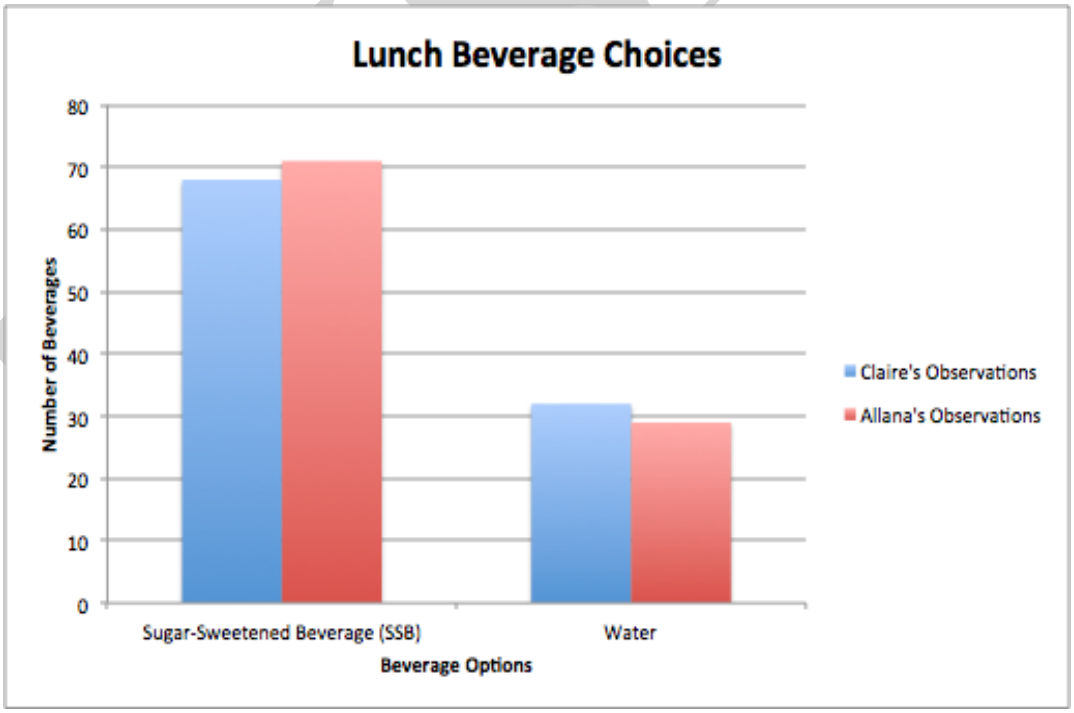

Figure 3. Lunch beverage choices

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AR Exemplar

What follows is an AR exemplar that was an assignment within a tertiary level teacher pre-service program/course. Students were instructed to carry out AR while completing pre-service teaching practicum.

5.0 Action Research Task – November Teaching Practicum

I continued my pre-service teaching adventure in the grade five/six classroom for the three-week November practicum. Although I worked with the same, wonderful Associate Teacher (AT), the classroom was the same, the students were the same, yet my management strategies and experiences were entirely different. It is important to mention that my AT is now past the point of never raising her voice. I have noticed she does this quite often now, as the mid-year frustration of difficult students is beginning to take its toll on her patience. Even though her diminishing tolerance opened the gate for me to use this strategy as a way of management, I decided it was not the approach I wanted to take in my lessons. Overall, I was able to discover what strategies work best for me. I was able to learn more about my own management style due to length of this practicum. I was there long enough to implement, review and alter my personal methodologies accordingly.

Act

My practicum was full of learning experiences – some more pronounced than others. The revisions that I made since October to my management strategies worked out fantastically; especially with my one behavioural student who was having some difficulties in the classroom but was even more unmanageable in the gymnasium. After careful, personal consideration and discussion with my associate teacher, I decided to approach this situation from a different angle. I began each day by preparing this student for the gym class. I told him exactly what we were going to be doing. I explained what equipment we needed, the warm-up, the drill, and the activity I had planned for the gym class that day. After telling him step by step how the class was going to unfold, I told him because it was going to be so busy, I needed help setting up the equipment and making sure the class ran as smoothly as possible. He jumped at the chance and volunteered to help me immediately. Judging by his reaction, I decided against allowing him to pick an activity once per week. I felt the sense of responsibility and positive reinforcement was enough of an incentive for this student to stay focused on his task. Fortunately, I was right. I also modified and used this strategy with other disruptive students in the class. Particularly in gym class, I would ask them, "show the class how to..." when he or she was getting out of line. This automatically seemed to focus their attention back on the content of the lesson. Once they completed the demonstration, I would give them lots of positive reinforcement, i.e., "thank you so much for your participation – that was excellent!"

Reflect

This revision to my management strategy turned out to be one of my greatest accomplishments. Of course, the first disruptive student (my new helper) needed a few gentle reminders he was "setting an example" as an assistant, his behaviour was completely controlled. Gym class was not only successful; this student also felt a sense of achievement and had fun participating in the class. As for the other disruptive students who were asked to demonstrate a skill, I believe this kind of attention was exactly what they needed at that moment. In my opinion, they were acting in a disorderly way to gain attention from other students and myself. Instead of giving them negative attention, I provided them an opportunity to gain attention in a positive way. This way, it was a win-win situation. They received attention, I was able to continue my lesson without being disrupted, and the rest of the students were able to benefit from minimal distractions. In addition, the other students (and myself) were not nearly as irritated as we normally were by the end of the lesson.

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Revise
I will continue this strategy when I return to the classroom in the winter term. I know I will not be working with the same students, but I am confident the purpose of this method based on preparation and positive reinforcement can be adapted and implemented with any student experiencing behavioural difficulties.

Act
Throughout my language lessons, I ran several reading groups. To keep the students focused while other students were reading aloud, I enforced a "random round- robin" strategy. This meant I could call on any student to read at any time. I found this not only kept their attention on the book being read, but it also pushed them to listen more carefully.

Reflect
I employed this method for the course of my lessons, and it proved to be efficient each time. As a student, I used to hate this kind of method. I used to feel as though I was put on the spot and felt anxiety about being asked to read in front of the class. Because I am so aware of this and can distinctly remember how much I disliked my teacher for doing such an awful thing, I observed the students constantly and assessed their comfort level. The very last thing I wanted to do was hinder a child by creating anxiety about a learning activity. Due to the age level of the students (10-11 years old), however, they were overly willing to volunteer to read. This was great, but I also wanted them to focus and pay attention. This strategy deemed itself particularly useful based on the behaviours of the group.

Revise
I initially used and continue to use this strategy because I observed how eager all the students in my reading group were to read aloud. Perhaps in the next few grade levels, this strategy would not be as successful. Students are more self-conscious as they enter puberty and their teenage years. They tend to experience a higher level of anxiety when centered out and put on the spot – especially in front of their peers. Perhaps if I were working with older students, I would utilize a round-robin management technique, but allow each student to prepare for his or her read-aloud part by assigning pages before the class

Act
One of the difficulties in management occurred when I was teaching math. Math scares me – literally. I hated it as a young student, and I hate it even more now that I am an older student having to revisit these early concepts. It was my responsibility to teach the grade fives their lesson while my AT taught the grade sixes. Even though I put a lot of time into reviewing the text, going over concepts already taught, following the guide in the teacher's resource, and thoroughly examining the assigned questions, my lessons still were not very successful. I spent most of my time desperately attempting to get the students to understand what I was trying to teach. It was a very frustrating feeling trying to reach the students when all I saw were blank stares and panicky looks in return. After a couple minutes, some students were quiet, but many of them began to throw their hands up and try to explain how they attempted to figure out the question. Feeling desperate and overwhelmed, I (and the rest of the grade 5's) listened to each student's proposed mathematical method (i.e., "I did it like this, Ms. Yeoman. Is this right? Because I got this..."). I ended up completely lost on how to teach the lesson, and the students ended up feeling overwhelmed and confused.

Reflect
First, I was ineffectively using my interpretation of the textbook's ideas of teaching instead of listening enough to the specific needs of the students sitting in front of me. I was trying to teach the students something more advanced than what they were ready for. I was trying to teach in a way that not only did not work for me, but also in a way that did not work for the students either. Once I realized this mid-class,

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I began to feel flustered and grasped at the first attempt at potential learning that came my way. Although it may have sounded like a decent plan, it was a complete waste of time, and it made the lesson even more confusing than it already was. My intentions were to help the students work through their difficulties and hopefully, at the same time, help others who experienced the same problems. Instead, I sent the group into a whole new level of confusion by going over a bunch of ways how *not* to work out a problem, rather than working out the correct solution in a simpler way.

Revise

After thorough reflection and an in-depth discussion with my AT, I decided I needed to keep my math lessons simple. Instead of following the instruction given in the text, I had to simplify the strategy being imposed. This would not only help the students with their comprehension, but it would also allow me to feel more confident as a teacher. By simplifying the lesson for the students, I am simplifying the lesson for myself. For example, when introducing the lesson, I would use single digit numbers instead of 4-digit numbers until the students understood the concept. Gradually, I would make the numbers larger – but only when I received the verbal and physical cues that students understood the concept.

By answering and attempting to solve each student's individual confusions, I created an unnecessary state of minor panic amongst the students. Next class I will ask them to be patient until the lesson is done. I will ask the students to lower their hands for the moment, and if they are still confused by the end of the lesson, I will go around and help them work out their problems on a one-to-one level. This way, the students who are grasping the concepts do not become bombarded with useless information and those who are confused to still attain the help he or she needs.

Overall, I believe I learned two very important lessons on good and effective teaching: One is that positive reinforcement goes a long way and two, K.I.S.S.! (Keep It Simple Silly), I am grateful I had this opportunity to experience and develop these tools of classroom management via AR. I will absolutely be utilizing this new knowledge in my own classroom.

Conclusion

The perception that Naturalistic Observation and Action Research share common points is much more understandable, yet each means of inquiry requires careful preparation, application, and reflective revisions to realize both personal and professional outcomes. Both research modes are qualitative, subjective non-experimental efforts that generate theory and verify data. Differences and similarities need to be understood and clarified as researchers move forward yet it is "through such reflection and revaluation, the teacher may gain a clearer sense of the way in which the past shapes and informs possibilities for action in the present" (Rudduck, 1991, p.94). Both NO and AR are a means to sort and rearrange enduring beliefs (values), and motives in research and teaching however; is teaching not research in action, trial and error, discovery, problem-solving and experiential?

Recommendations

For many years NO has been documented via observations in the natural world and this should continue being careful not to manipulate or control what is observed within contexts.

Both research modes are limited as are all qualitative, subjective non-experimental research efforts and this should be addressed in each study hereafter.

NO and AR can, and should, be used in mixed methods as both generate much data that can be systematically examined recursively.

NO can be utilized to translate our world in an authentic and natural manner, yet limitations must be observed and noted in each study.

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Using NO and AR can generate insight and rich data that can be recursively visited over time making both a means to develop longitudinal studies.

Both NO and AR can suffer from observer bias as multiple conclusions may surface that are tenuous at best.

Ethics

Covert NO does not necessitate ethics approval when it does not involve any "intervention staged by the researcher, or direct interaction with the individuals or groups; individuals or groups targeted for observation have no reasonable expectation of privacy; and any dissemination of research results does not allow identification of specific individuals" (Government of Canada, 2022, p.1). Therefore, the author collected all data in accordance with Government of Canada ethical research policy, practices, and protocols during the research process.

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